Abhijat Sharma

abhijat.sharma@liu.se

- IDA Department of Computer Science, Linköping University
- Theoretical Computer Science (TCS Lab)
- Supervisors: Peter Jonsson and Victor Lagerkvist
- PhD, commenced 19 October 2020
- Previously Research Student at LIRMM, France
- Research topics
 - Graph Theory
 - Parameterized Complexity
 - Constraint Satisfaction Problems (CSPs)
- Algorithms and Complexity of Qualitative CSPs
 - To construct and analyse algorithms for solving certain well known CSPs, with applications in AI and elsewhere.
 - Prove complexity bounds (upper and lower) wherever possible.







DATAVETENSKAP

Adam Breitholtz

adambre@chalmers.se

- Computer Science and Engineering, Chalmers
- Supervisor: Fredrik D. Johansson
- MSc in Engineering mathematics, Chalmers (2020)
- Research topics:
 - Transfer learning/Domain adaptation
 - Mathematical foundations of AI
- Guarantees for learning transferable concepts
 - Investigating different assumptions which could guarantee successful transfer between domains.
 - When and how does transfer learning work?; basically what we are trying to answer.







Adam Tonderski

adam.tonderski@zenseact.com

- Centre for Mathematical Sciences, Lund University
- Industrial PhD at Zenseact
- Kalle Åström, Christoffer Petersson, Cristian Sminchisescu
- Complex Adaptive Systems (Eng. Phys.), Chalmers (2019)
- Deep Learning Engineer at Zenseact (2019-)
- Research topics
 - Deep learning for computer vision
 - Unsupervised/Semi-supervised learning
 - Active learning
- Automating image annotations for autonomous driving
 - Ensembles of large models as teachers (+ active learning)
 - Leveraging unlabeled data (self/semi/un-supervised)
 - "Cheating" with more sensors and temporal information





zenseact



Albin Toft atoft@kth.se

- Mathematical Statistics, KTH
- Industrial PhD Students at Combient Mix
- Liam Solus, Tatjana Pavlenko, Raazesh Sainudiin
- Master of Science in Engineering, KTH (2019)
- Data Scientist at Combient Mix
- Research topics
 - High dimensional statistics
 - Causality
 - Scalable data science
- Scalable Causal Inference in Media
 - This thesis aims to extend the existing theory of causal inference so as to analyse causal effects and structures detectable in mass and social media.









Alec Gower

gower@chalmers.se

- Systems and Synthetic Biology, Chalmers
- Supervisors: Prof. Ross King; Dr. levgeniia Tiukova
- Master of Mathematics, Oxford University (2015)
- Previously worked for the Civil Service in the UK as a data analyst
- Research topics
 - Active learning
 - Systems biology
 - Scientific discovery
- Applying active learning techniques to automate scientific discovery in systems biology
 - Combining AI with laboratory robotics
 - Existing knowledge models are tested and refined using independent cycles of experimentation, analysis and refinement



(always raining in Gothenburg)







Amanda Nilsson

amanda.nilsson@math.lth.se

- Centre for Mathematical Sciences, Lund University
- Supervisor: Carl Olsson, Senior lecturer, Mathematics
- Master's in Mathematical Statistics, Lund University 2020
- Research topics
 - Mathematics, Computer Vision
- Research project
 - Develop methods that combine traditional Computer Vision with Deep Learning Methods.







Amandine CAUT

amandine.caut@math.uu.se

- Department of Mathematics, Uppsala
- PhD Students at Uppsala University
- Supervisor : Kaj Nyström
- Master degree in Computer Vision and Signal Processing, Bordeaux University (2020)
- Master degree in Mathematics in Analysis, PDE's and Probability, Bordeaux University (2019)
- Research topics:
 - Al
 - Mathematics
- Title of the thesis: Continuous methods in Deep Learning
- To develop mathematical methods with PDEs and SDEs in order to improve optimizers for deep neural networks.





UPPSALA UNIVERSITET



Amaury Gouverneur amauryg@kth.se

- Information theory and Machine learning
- Department of Information Science and Engineering, KTH
- PhD in Electrical Engineering and Computer Science, KTH (August 2020)
- Mikael Skoglund, Tobias Oechtering
- Master in Applied and Computational Mathematics, KTH and UCL (June 2020)
- Software developer at aSmartWorld (2019)
 - Developed a mobile app to estimate the value of a secondhand smartphone
- Research topics
 - Generalization bounds of machine learning algorithms
 - Regularization and training of neural networks







Amr Al-Khatib

a.mehasseb@nu.edu.eg

- Department of Computer Science, KTH
- Supervisors:
 - Professor Henrik Boström
 - Professor Michalis Vazirgiannis
- Master of Science in Communication and Information Technology, Nile University (2018)
- Artificial Intelligence Research Engineer at Mendel.AI
- Research topics
 - Machine Learning
 - Natural Language Processing
- Machine and deep learning for health data
 - The PhD project aims to advance state-of-the-art machine and deep learning techniques for analyzing both structured and semi-structured data in electronic health records.







Anja Hellander

anja.hellander@liu.se

- Department of Electrical Engineering, Linköping
- Industrial PhD Student at Saab Dynamics
- Supervisors: Daniel Axehill, Martin Enqvist, Henrik Jonson
- M. Sc. in Applied Physics and Electrical Engineering, Linköping (2020)
- Research topics
 - Al planning
 - Motion planning
 - Optimal control
- Unified task planning and optimal-control-based motion planning
 - Tightly integrate methods for robot task planning with methods for motion planning







Anton Matsson

antmats@chalmers.se

- ML for Causal Inference
- Department of CSE, Chalmers
- Supervisors: Fredrik Johansson, Morteza Haghir Chehreghani
- MSc in Engineering Physics, Chalmers (2020)
- Research topics:
 - Sequential decision-making
 - Off-policy evaluation
 - Causality and causal inference
- Learning interpretable sequence representations
 - Evaluating sequential decision-making policies in healthcare is complicated when the sequences are long and high-dimensional.
 - Representing the data in a compact but interpretable way is of utmost importance.





CHALMERS



Arman Rahbar

armanr@chalmers.se

- Data Science and AI
- Computer Science and Engineering, Chalmers
- Morteza Haghir Chehreghani, Hossein Azizpour (KTH)
- Masters at Amirkabir University of Technology, 2019
- Research topics
 - Machine Learning
 - Representation Learning
 - Natural Language Processing
 - Anomaly Detection
- Under-Supervised Representation Learning
 - We aim at finding an appropriate representation of data when we do not have sufficient supervision available.
 - Have done projects on Domain Adaptation and Knowledge
 Distillation.







Arvid Norlander

- Centre for Applied Autonomous Sensor Systems (AASS), School of Science and Technology, Örebro Universitet
- Supervisor: Luc de Raedt
- Master in Robotics, Örebro University (2020)
- Work experience: Epiroc Rock Drills AB (2012-2020)
 - Real time C++ software development
- Research topics
 - AI
 - Probabilistic reasoning
 - Robotics
- Title of thesis yet to be decided











- PhD student in the Department of Mathematics, KTH
- Supervised by Katharina Jochemko and Petter Brändén.
- MSc in Mathematics, University of Warwick (2019)
- Research topics:
 - Mathematical foundations of AI
 - Geometric combinatorics
 - Algebraic and enumerative combinatorics
- Geometric combinatorics and artificial intelligence
 - A study of polyhedral structures arising in AI viewed through the lens of discrete geometry and combinatorics.







Aso Bozorgpanah

aso.bozorgpanah@umu.se

- Department of Computing Science, Umea
- PhD in Computer Science, Umea University (2020)
- Professor Vicenc Torra
- Degree
 - M.Sc. Artificial Intelligence (2015)
 - B.Sc. Computer Engineering –Software (2012)
- Work experience
 - University of Kurdistan (Instructor and Researcher)
 - Behsazan Mellat Company (Computer Engineer)
- Research topics
 - Data Privacy
 - Machine Learning
 - Artificial Intelligence
- Preliminary title of thesis
 - Data privacy and Machine Learning





Carl Hvarfner

carl.hvarfner@cs.lth.se

- Computer Science/Math, LTH
- Supervised by Luigi Nardi, Jacek Malec
- M.Sc Industrial Engineering from LTH, 2020
- Work experience:
 - Management Consulting internships during studies
 - Software engineering at lending company
- Research topics
 - Black-box Optimization
 - Neural Architecture Search
 - Parallel Bayesian Optimization
- *No thesis topic set* expanding on the above instead
 - Exploring strategies for efficiently finding global optima of unknown functions – most common application being the tuning hyperparameters of neural networks







Charles Meyers

<u>cmeyers@cs.umu.se</u>

- Department of Computing Science Autonomous Distributed Systems Lab
- Supervisors
 - Monowar Bhuyan (supervisor)
 - Erik Elmroth (co-supervisor)

PARALLEL PGD: MASSIVE EVASION ATTACKS AGAINST KERNELIZED SVMS 12 November 2020



Danai Deligeorgaki

- Aristotle University of Thessaloniki
 - BSc in Mathematics
- Imperial College London
 - MSc in Pure Mathematics
- KTH Royal Institute of Technology
 - PhD in Mathematics funded through

I am going to work with Liam Solus on

- algebraic and geometric combinatorics,
- applications to graphical models and causality.





Danai Deligeorgaki

carmen.lee@it.uu.se

- Department of Information Technology, Uppsala University
- Industrial PhD Student at Ericsson AB
- Niklas Wahlstörm, Jalil Taghia, Dave Zachariah
- Master of science in engineering physics
- Research topics
 - Meta-learning
 - Modular neural networks
- Modular neural networks assembly in 6G
 - Developing methods for modular neural network composition in telecommunication context, aiming at utilizing reusable and adaptive neural networks.











Daniel Brunnsåker

danbru@chalmers.se

- Systems and Synthetic Biology, Chalmers
- Supervisors: Ross King & levgeniia Tiukova
- MSc Bioengineering, Chalmers (2020)
- Research topics
 - Machine Learning
 - Computational Biology
 - Graph Theory
- Closed-loop model improvement in systems biology using machine learning
 - The development of an AI-accelerated method that performs closed cycles of autonomous experimentation, analysis and data integration.
 - Goal is to improve fidelity of computational models of eukaryotic cells and autonomously generate knowledge priors of cell regulatory systems.





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Dominik Drexler

dominik.drexler@liu.se

- Department of Computer Science, LiU
- Hector Geffner and Jendrik Seipp
- MSc in Computer Science, University of Freiburg (2020)
- Research topics
 - AI
- Representation Learning for Planning
 - Learning symbolic representations from raw perceptions for applying reasoning techniques such as AI planning automatically







Eduardo Gutiérrez Maestro

eduardo.gutierrez-maestro@oru.se

Center for Applied Autonomous Sensor Systems (AASS), Örebro University.

- <u>Supervisor</u>: Oscar Martinez Mozos.
- <u>Co-Supervisor</u>: Alessandro Saffiotti.
- MSc in Telecommunications Engineering, University of Alcala, Spain (2019).
- Research Topics:
 - AI and Machine Learning for multi-modal sensory systems.
 - Mental well-being.
 - Decision Support Systems.
- Machine Learning for mental well-being assessment during daily life.
 - Analysis of cutting-edge algorithms to leverage AI and Machine Learning techniques finding patterns in data that reveal possible negative mental well-being.







Ehsan Doostmohammadi

tbd@liu.se

- Natural Language Processing
- Computer Science (IDA), Linköping University
- Marco Kuhlmann and Richard Johansson
- MS in Computational Linguistics, Sharif UoT, Tehran, Iran
- 2+ years as NLP Engineer
- Research topics
 - Natural Language Processing
 - Deep contextualized language representations
- Interpreting and Grounding Pre-trained Representations
 - Developing new methods for the interpretation, grounding, and integration of deep contextualized representations of language, and evaluating the usefulness of these methods in applications.



Erik Jansson

erikjans@chalmers.se

- Mathematical sciences, Chalmers University
- Supervised by Klas Modin and Annika Lang
- Master in Applied Mathematics, Chalmers (202
- Research topics
 - Mathematics of shape
 - Shape learning
 - Random fields and their geometry
- "Mathematics of shape learning"
 - One of the objectives lies in trying to design new learning architectures designed using principles from the mathematical study of shape.









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Erik Nikko erik.nikko@liu.se

- Department of Computer Science, Linköping
- Industrial PhD Students at Saab, Aeronautics
- Fredrik Heintz, Patrick Doherty, Zoran Sjanic
- Master Computer Science, Linköping University (2018)
- Systems engineer, Saab, Aeronautics (2018)
- Research topics
 - Al, sequential decision-making (e.g. reinforcement learning)
 - Verification and Validation
- Verification and Validation of Sequential Decisionmaking in Uncertain and Adversarial Environments
 - Verify safety properties for sequential decision-making
 - Validating models used for sequential decision-making and for its verification with regards to the target environment.









Erik Wallin

walline@chalmers.se

- Electrical Engineering, Chalmers
- Industrial PhD Student at Saab Surveillance
- Lars Hammarstrand, Lennart Svensson, Fredrik Kahl
- Engineering Physics, Chalmers, 2019
- Previously systems engineer at Saab
- Research topics
 - Semi-supervised learning
 - Radar classification

Methods for semi-supervised learning with accurate uncertainty estimation







Farhan Rasheed

farhan.rasheed@liu.se

- Department of Science and Technology, Linköping University
- Supervisors:
 - Prof. Ingrid Hotz, Daniel Jönsson
- MSc Scientific Computing, Heidelberg University, Germany (2020)
- Master Thesis at German Cancer Research Center (DKFZ)
- Research topics:
 - Scientific Visualization
 - Topological Data Analysis
 - Machine Learning/ Medical Image Computing
- Topological Data Analysis for Scientific Visualization
 - Developing topology-based methods to explore the brain network connectivity.
- Master Thesis: Evaluation of Deep-Learning and Classical Iterative Approaches for Deformable Image Registration on Multiparametric Prostate MRI.







Felix Rydell

- KTH Royal Institute of Technology
- PhD student in algebraic geometry and A.I
- Kathlén Kohn, Fredrik Viklund
- Bachelor's Degree (2019) and Master's Degree (2020) in pure mathematics at the University of Gothenburg
- Research topics
 - MLE of Nets of Conics
 - Spectral Geometry of Flat Tori
- Algebro-Geometric Structures within Data Science and Artificial Intelligence
 - This thesis aims to build and describe connections between algebraic geometry and modern methods in A.I







Fereidoon Zangeneh fzk@kth.se

- Division of Robotics, Perception and Learning, KTH Royal Institute of Technology
- Industrial PhD Students at Univrses AB
- Supervisors: Patric Jensfelt, Alessandro Pieropan, and Mårten Björkman
- Past education: MSc Systems, Control and Robotics, KTH MEng Mechatronic Engineering, Uni. of Nottingham
- Research topics
 - Deep learning
 - Computer vision / SLAM
- Long-term visual localisation
 - Using deep learning for leveraging semantic information cues in long-term city-scale visual localisation of autonomous vehicles









Filip Cornell fcornell@kth.se

- EECS, KTH
- Industrial PhD Student at Gavagai
- Supervised by Sarunas Girdzijauskas & Jussi Karlgren
- M.Sc Computer Science 2019, Linköping University
- Work Exp.:
 - Data Scientist for 1 year prior to starting PhD
- Research topics
 - Natural Language Processing
 - Few-shot Learning
 - Topological Data Analysis
- Semantic Topology for Human Discourse Agents
 - Exploring how geometrical techniques and topological data analysis (TDA) can be leveraged in NLP
 - Exploring whether advanced data augmentation techniques can be combined with TDA and improve few-shot learning for language tasks









Firooz Shahriari-Mehr

Firooz@chalmers.se

- Data Science and AI Division, CSE Department
- Chalmers University of Technology
- Working with Ashkan Panahi
- M.Sc. In Electrical Engineering, Sharif University of Technology, 2019
- Research topics
 - Large-Scale and Distributed Optimization
 - Machine Learning
- Thesis: "Data Representation and Machine Learning over Networks"
- Goal: Proposing a new Optimization Framework for Large-Scale machine Learning problems to be both communication and computation efficient.
- Joining from 20 October 2019.









Hariprasath Govindarajan

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- AI and Machine Learning
- Department of Computer Science, Linköping University
- Industrial PhD Student at Veoneer Sweden
- Fredrik Lindsten (main), Jacob Roll, Per Siden
- MSc in Statistics and Machine Learning, Linköping University (2020)
- BTech in Civil Engineering, Indian Institute of Technology Madras (2014)
- Software Engineer, Wipro Technologies (2014-18)
- Research topics
 - Representation Learning
 - Unsupervised Learning
- Attentive and Disentangled Representation Learning
 - Developing methods to learn disentangled representations for complex multi-object images
 - Applied to content-based image retrieval for road

scenes



veoneer

Hoomaan Maskan

hoomaan.maskan@umu.se

- Department of Mathematics and Mathematical Statistics, Umeå University
- PhD Student in Mathematics
- Advisor : Armin Eftekhari, Co-Advisor : Jun Yu
- Msc in Communication Engineering (Iran University of Science and Technology)
- Research topics
 - Neural Networks
 - Optimization Theory
 - Super resolution
- A Mathematical Investigation on Neural Networks Learning Algorithms.
 - Implicit regularization in training neural networks using gradient descent
 - Investigation of stochastic gradient descent algorithm when applied on neural networks







Jens Agerberg

jensag@kth.se

- Mathematics of Data and AI, KTH
- Research group: Topological Data Analysis (Martina Scolamiero, Wojciech Chacolski)
- Experience:
 - MSc Applied Math, KTH (+ MSc Finance, SSE)
 - Startup experience
- Research topics:
 - Learn from geometrical/topological features of datasets
 - Learn topologically accurate representations
 - Applications









Jacob Lindbäck

jlindbac@kth.se

- EECS, KTH
- Mikael Johansson (main supervisor),
- Cristian Rojas (co-supervisor)
- Engineering Mathematics (MSc),
- Chalmers University of Technology
- (2019)
- Data Scientist, Combient Mix (2019-2020)
- Research topics
 - Large-scale optimization (distributed opt.)
 - Machine learning

Scalable Optimization for ML

This research project aims at developing fundamental theory and algorithms for which are able to solve large-scale optimization problems at an unprecedented speed, eventually supporting decision-making in real-time.





Jingru Fu

jingruf@kth.se

- Department of biomedical engineering and health, KTH
- Supervisors: Dr. Rodrigo Moreno, Dr. Örjan Smedby
- PhD in Technology and Health, KTH (2020 now)
- Master Degree in Information and Communication Engineering, Chongqing University (2017-2020)
- Research topics
 - Computer vision
 - Transfer learning
 - Image registration
- Deep learning-based tractography for tumor resection neurosurgery
 - Focus on deep learning based tractography for tumor resection neurosurgery to fill the gap in intraoperative tractography, while taking into account accuracy and efficiency.






Joel Oskarsson

joel.oskarsson@liu.se

- Department of Computer and Information Science, Linköping University
- Supervised by Fredrik Lindsten and Jose M. Peña
- M.Sc. in Computer Science and Engineering, Linköping University (2020)
- Research topics
 - Machine learning
 - Deep learning
 - Spatio-temporal statistics
- Probabilistic Deep Learning for Spatio-Temporal Data Analysis
 - Developing machine learning methods for data with spatial and temporal structure.
 - Combining deep learning with traditional statistical models in the area.







John Moberg john.moberg@it.uu.se

- Department of Information Technology, Uppsala Uni
- Supervisor: Professor Thomas Schön
- MSc Engineering Mathematics, Chalmers Uni 2019
- Worked with deep learning at Peltarion for a year
- Research topics
 - Robust and efficient reinforcement learning
 - Combining physics models and deep learning
- Robust and efficient deep reinforcement learning
 - Construct robust and efficient RL methods that can be applied to real-world problems





UPPSALA UNIVERSITET



Jonas Hansson

jonas.hansson@control.lth.se

- Department of Automatic Control, Lund University
- Emma Tegling and Anders Rantzer
- MSc Engineering Physics (2020)
- Research topics
 - Robustness, sensitivity and controllability
 - Topology-induced limitations
 - Control and estimation under structural constraints
- Fundamental mechanisms in networked control
 - Develop tools to analyse the fundamental properties of control when a network structure induces fundamental limits to the problem.





Kasper Bågmark bagmark@chalmers.se

- Mathematical Sciences, Chalmers University of Technology and University of Gothenburg
- Supervised by Adam Andersson, Annika Lang and Stig Larsson
- Master in Applied Mathematics, Chalmers (2020)
- Research topics
 - Stochastic differential equations
 - Bayesian statistics
 - Deep learning
- Deep learning for the nonlinear filtering problem
 - One of the objectives lies in finding a method which can overcome the curse of dimensionality





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Krister Blanch

krister.blanch@chalmers.se

- Vehicle Engineering & Autonomous Systems, Chalmers University of Technology
- Ola Benderius, Christian Berger
- Master of Software Engineering, Griffith University, AUS, (2020)
- Robotics & Autonomous Systems, CSIRO
- Research topics
 - Maritime Sensor Fusion & Dataset Generation
 - Autonomous Maritime Vehicles.
- REEDS (Maritime KITTI)
 - Developing an accurate maritime sensor platform for dataset collection.
 - Using this to develop reference algorithms for selfdriving pilot boats.







Lena Stempfle

stempfle@chalmers.se

- Computer Science and Engineering, Chalmers University of Technology
- Data Science and AI division
- Supervisor: Fredrik Johansson
- Master of Science, Karlsruher Institute of Technology (KIT) (Jul. 2020)
- PhD in Machine learning in Healthcare (Aug. 2020)
- Research topics
 - Progression prediction in Alzheimer's
 - Missingness in healthcare data





CHALMERS

Leonard Papenmeier

leonard.papenmeier@cs.lth.se

- Department of Computer Science, Lund University
- Supervisors: Luigi Nardi, Jacek Malek
- M.Sc. in Computer Science, Ruhr-University Bochum (2020)
- Experience in Software Engineering and implementation of Machine Learning algorithms
- Research topics
 - Black-Box Optimization
 - Bayesian Optimization
 - AutoML





Lidia Kidane

lidia.kidane@umu.se

- Department of Computing Science, Umeå University
- Supervisors:
 - Prof. Erik Elmroth
 - Dr. Paul Townend
- MSc in Machine Intelligence, African Institute for Mathematical Sciences (2020)
- Research topics:
 - Machine Learning
 - Cloud Management
 - Sequential decision-making
- Novel Data Selection Strategies and Associated Machine Learning Algorithms for Cloud Management
 - Developing methods for selecting important subsets of data for efficient training while being in control of prediction uncertainty.
 - Develop the machine learning algorithms for Cloud management decision making.







Lovisa Hagström

lovhag@chalmers.se

- Department of Data Science and AI, Chalmers University of Technology, Göteborg
- Supervisor: Richard Johansson
- M.Sc. in Engineering Physics, Chalmers University of Technology (2019)
- Software developer, Jeppesen (2018)
- Research topics
 - Natural Language Processing
- Interpreting and Grounding Pre-trained Representations for Natural Language Processing
 - A recent breakthrough within NLP is the development of neural models that learn deep contextualized representations of language.
 - Within the project we aim to further build on this research. Possibly through interpretation, grounding, knowledge distillation and/or transfer learning.
 - In cooperation with Recorded Future.





CHALMERS

Magdalena Viktorsson

magdab@cs.umu.se

- Department of Computing Science, Umeå University
- Supervisors: Erik Elmroth (Umeå University) and Monica Vitali (Politecnico di Milano)
- Master of Science in Engineering, Umeå University (2020)
- Research topics
 - Cloud Computing
 - Distributed Systems
 - Autonomous Resource Management
- Learning and Planning for Resource Allocation to Meet Performance Targets in Computer Systems
 - Use machine learning and planning to predict resource allocation requirements for specified performance targets.





UMEÅ UNIVERSITY



Manu Upadhyaya

manu.upadhyaya@control.lth.se

- Department of Automatic Control, Lund University
- Supervisors:
 - Pontus Giselsson (main)
 - Sebastian Banert
- MSc engineering physics, Lund University (2020)
- MSc finance, Lund University (2020)
- Research topic:
 - Continuous optimization
- Preliminary projects:
 - Performance estimation of optimization algorithms
 - Min-max problems for GANs



LUND

UNIVERSITY







Maria Taha

- Department of Computing Science, Umea University
- PhD Student in Computer Science (2020)
- Supervisors: Vicenc Torra, Lilli Jiang
- M.Sc., University of Khartoum (2012)
- Research topics
 - Privacy for Machine Learning
 - Probabilistic Metric Spaces
- **PhD Project**: Developing privacy-aware ML based on ML model spaces.
- Aim: Study the interaction between Databases and models spaces
- Motivation:
- \checkmark In model selection for statistical and machine learning.
- \checkmark In privacy preserving data mining and machine learning.







NAUSICA

Mena Nadum

mena.nadum@gmail.com Chalmers email

- Department of Computer Science and Engineering, Chalmers University of Technology
- Industrial PhD Student at AstraZeneca, Department of Real World Science & Digital
- Supervisors: Fredrik Johansson (Chalmers), Dave Zachariah (Uppsala University), and Claudia Cabrera (AstraZeneca)
- Degree M.Sc. in Biomedical Engineering, Linköping University (2020)
- Work Medical device consultant and project manager at Sahlgrenska hospital (3 years)
- Research topics
 - Methods that combine observational and clinical trial data for validation and analysis
 - Identifying clinically important disease sub-types using data-driven approaches in primary care population based electronic health records
- Machine Learning for Causal Inference from Observational Data with Applications in Healthcare
 - Emulation of randomized clinical trials in real world data how to capture closely monitored patient data in electronic health records
 - Improving Health Care Decisions through the integration of disease specific algorithms and patient data acquired through devices











Minal Suresh Patil

minalsp@cs.umu.se

- Department of Computing Science, Umeå
- Doctoral Student, Umeå Universitet (Sept. 2020)
- Supervisor: Kary Främling; Co-supervisor: Monowar
 Bhuyan

Research topics:

- ≻Explainable AI
- ➤Counterfactual Theory and Causal Inference
- ➤ Neural-Symbolic Learning and Reasoning
- ➤(Lifelong) Reinforcement Learning and Constructivist Learning Theory
- Topic: Towards Neural-Symbolic Learning and Machine Reasoning







Muhammad Faris

farism@chalmers.se

- Department of Electrical Engineering, Chalmers
- Paolo Falcone and Jonas Sjöberg
- MSc in Systems and Control, TU Delft (2018)
- Research topics
 - MPC
 - Autonomous vehicles
- Optimal coordination for vehicles at intersections
 - Developing novel problem formulation for optimization-based coordination of mixed-traffic vehicles at intersections
 - Applying robust control methods to solve the problem





UNIVERSITY OF TECHNOLOGY



Muhammad Rusyadi Ramli

ramli2@kth.se

- Department of Machine Design, KTH Royal Institute of Technology
- Martin Edin Grimheden, Elena Fersman, Martin Törngren
- Master of Engineering, Kumoh National Institute of Technology, South Korea (2019)
- Research topics
 - Edge computing
 - Intelligent Transportation Systems (ITS)
 - System architecture
- Trustworthy Architecture for Edge-based Cyber Physical Systems (CPS).
 - Designing a reference architecture that emphasize on trustworthy aspects (e.g., Safety, security, availability) for edge-based CPS.
 - Fault and anomaly detection methods.
 - Special focus on ITS.







Newton Mwai Kinyanjui

mwai@chalmers.se

- Computer Science & Engineering, Chalmers University of Technology
- Supervisor: Dr. Fredrik D. Johansson
- Master of Science in Electrical and Computer Engineering, Carnegie Mellon University (2019)
- Research topics
 - Sequential Decision Making in Healthcare
 - Causality in Sequential Decision Making





CHALMERS UNIVERSITY OF TECHNOLOGY



Oscar Carlsson

osccarls@chalmers.se

- Department of Mathematics, Chalmers University of Technology
- Daniel Persson, Christoffer Petersson
- M.Sc. in Physics and Astronomy
- Research topics
 - Machine learning
 - Fibre bundles
 - Image recognicion
- Gauge equivariant convolutional neural networks
 - How to use knowledge of (geometrical) symmetries in data to enhance training and processing of transformed data





UNIVERSITY OF TECHNOLOGY

Rebecka Winqvist rebwin@kth.se

MPC, Meta Learning and Deep Learning

- Division of Decision and Control Systems, KTH Royal Institute of Technology
- Academic PhD Student
- *Supervisor* : Bo Wahlberg, *Co-supervisor* : Cristian Rojas
- M.Sc. in Electrical Engineering, KTH (2020)
- Research topics
 - Optimal Control
 - Machine Learning







Rishi Hazra

- Department of Science and Technology, Örebro University
- Supervisor: <u>Luc De Raedt</u>
- Work Experience: Amazon Alexa-AI (NLU group)
- Education: M.Tech from Indian Institute of science,

Bangalore (2019)

- Research topics:
 - Machine Reasoning
 - Neuro-symbolic AI







Robert Bereza

robbj@kth.se

- Division of Decision and Control Systems, KTH Royal Institute of Technology
- Supervised by Håkan Hjalmarsson, co-supervised by Cristian Rojas
- M.Sc. In Electrical Engineering, KTH (2019)
- Research topics
 - Parameter estimation for multi-variable systems
 - Self-learning dynamical systems
- Topics in System Identification
 - Finding globally optimal parameters







Saeed Razavi

saeedrazavi1414@gmail.com

- Department of Electrical Engineering and Computer Science, KTH Royal Institute of Technology
- Supervisors: Dr. Carlo Fischione, Dr. Hossien Shokri
- PhD Candidate in KTH (started in 2021)
- Research Assistance at KTH
- Research topics
 - Distributed Learning
 - Federated Learning
 - Mathematical Foundations of AI other than ML

Previous background

- Compressed Sensing
- Grid less Methods
- Matrix Completion
- Low rank Recovery







Saloni Kwatra salonik@cs.umu.se

- Department of Computing Science, Umeå University
- Doctoral Student (2020/12/01)
- Vicenc Torra, Lili Jiang
- Research topics
 - Privacy preserving Machine Learning
 - Conceptualizing efficient ways for Federated Learning
 - Large scale Federated Learning





- Privacy in Federated Learning beyond supervised statistical models
 - Privacy perspective will be based on data obfuscation and perturbation. Differentially private solutions may be considered so that the learned model does not lead to disclosure.
 - Different types of attacks as e.g. membership attacks will be considered.
 - We plan to work on non-numerical/symbolic-based (e.g., decision trees) and unsupervised learning models.



Sara Karimi sarakari@kth.se

- Department of Software and Computer Systems, KTH University
- Industrial PhD Students at King
- Sahar Asadi (King), Amir H. Payberah (KTH)
- Master's in Computer science, Linkoping University
- Junior AI Engineer at King (2018-2020)
- Research topics:
 - Generalized deep reinforcement Learning
 - Scalable machine learning
- Scalability and generalization in reinforcement learning for the application of game play testing
 - Building a deep reinforcement Learning (DRL) algorithms to tackle generalization challenges
 - Speed-up the training of DRL algorithms by developing novel distributed learning approaches









Selma Tabakovic

selmat@chalmers.se

- Department of Applied Mathematics and Statistics, Chalmers University of Technology
- Supervised by Rebecka Jörnsten and Giuseppe Durisi
- Master's Degree in Engineering Mathematics and Computational Science, Chalmers University of Technology (2020)
- Bachelor's Degree in Engineering Physics, Chalmers University of Technology (2017)
- Research topics
 - Generalization properties of neural networks
 - Co-clustering using tensor factorization
- Generalization bounds for Deep Neural Networks: Insight and Design
 - Use tools from information theory and statistical learning theory to obtain tight probabilistic and algorithm-dependent generalization bounds of deep neural networks





CHALMERS

Shivam Mehta

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- AI and Machine learning
- School of Electrical Engineering and Computer Science - Division of Speech, Music and Hearing, KTH University
- Masters in Applied Mathematics and Information, ITMO University, Russia
- Research topics:
 - Speech Synthesis
 - Normalizing Flows
 - Natural Language Processing
- Previous Work Experience as NLP Researcher, Software and Integration Developer







Simona Gugliermo

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- Center for Applied Autonomous Sensor Systems, Örebro University
- Industrial PhD Students at Scania
- Federico Pecora (academic supervisor), Christos Koniaris (company supervisor)
- MSc in Electrical Engineering, KTH (2019)
- Developer Engineer for the Autonomous Vehicles Department, Scania
- Research topics:
 - AI Planning and Scheduling
 - Reinforcement learning
 - Transfer learning
- ML to enhance AI planning and scheduling
 - Developing learning algorithms to help humans build domains, aiming at reducing the knowledge engineering effort for humans, and providing better quality plans in many domains.
 - Applied to a fleet of autonomous vehicles.











Signe Sidwall Thygesen

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- Department of Science and Technology, Linköping university (at campus Norrköping)
- Supervisors: Ingrid Hotz, Talha Bin Masood
- Master of Science in Engineering Physics, Lund university, 2016
- Work experience: IT-Consultant, 2016-2018 Software developer (medical software), 2018-2020
- Research topics
 - Scientific visualization
 - Topological data analysis
- Topological signatures for visual data analysis
 - Topological analysis of charge transition









- Systems and Control, Department of Information Technology, Uppsala University
- Supervised by Dave Zachariah and Per Mattsson (co-supervisor)
- M.Sc. Engineering Physics, Uppsala University (2014)
- Ericsson Research (2014-2020)
 - System simulations and standardization of 5G and IoT in 4G (NB-IoT and LTE-M).
- Research topics
 - Machine learning
 - Causality
 - Decision policies
- Machine learning methods for causal inference
 - Develop methods to predict the outcome when training and test data are sampled from different distributions.





UPPSALA UNIVERSITET



Sofiane ENNADIR

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- PhD Student Al
- Department of Software and computer Systems, KTH
- Supervised by: Pr. Vazirgiannis and Pr. Boström
- MSc Degree Data Sciences Ecole Polytechnique, France
- Engineering Degree EMINES UM6P Morocco
- Work Experience :
 - Research Internship University of Louisville, Kentucky
 - Consulting Intern The Boston Consulting Group BCG Gamma
 - Research Intern BNP Paribas.
- Research topics:
 - Deep Learning Graph Neural Networks







Sourasekhar Banerjee

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- Department of Computing Science, Umeå University
- Supervisor(s)
 - Monowar Bhuyan
 - Erik Elmroth
- WASP-AI/MLX Ph.D. student started at 2020-06-08
- Work Experience: Full-time research fellow, Indian Institute of Technology Patna, India (2018 2020).
- Research topics
 - Distributed and Federated Learning
 - Machine and Deep Learning
 - Complex Data Analysis
- Federated feature selection, learning models, and optimization for complex data
 - Focusing on solving multiple issues in complex data by developing federated learning algorithms for improving training, learning, and inference.





UMEÅ UNIVERSITY

Autonomous Distributed Systems (ADS) Lab



Sudipta Paul <u>spaul@cs.umu.se</u> sudipta.paul@umu.se

Department of Computing Science, Umeå University

- Vicenc Torra, Lili Jiang
- Doctoral Student, First Year
- 2019(January)-2020(November) Junior Research Fellow at NISER Bhubaneswar, India
- Research topics
 - Privacy aware Machine Learning
 - Modelling Different Privacy Requirements of the devices in Federated Learning
- Probable Thesis Title:
 - "Decentralized Data Privacy"
 - Description:

In this project, research will be focused on machine learning for decentralized environments taking into account users' privacy requirements. To achieve this goal, we need to investigate the privacy models to understand which ones should be used, we need to develop algorithms that accounts different agents/devices' different privacy requirements, and we need to develop appropriate privacy-aware algorithms to obtain machine learning models. Naturally, solutions need to be computationally feasible (with respect to the computation, communication, and energy constraints of the devices) and follow trustworthy AI principles.





Tiago Almeida

Center for Applied Autonomous Sensor Systems (AASS), Örebro University

- <u>Supervisor</u>: Oscar Martinez Mozos
- <u>Co-Supervisor</u>: Achim Lilienthal

MSc in Mechanical Engineering, University of Aveiro, Portugal (2019).

- Research Topics:
 - AI and Machine Learning for SARs (Social Assistive Robots).
 - Autonomous Robots.
 - Perception and Intervention in SARs.
- Machine Learning for Assistive Robots
 - Development of a mobile robot capable of perceiving and interact with elderly people.
 - Deployment of Machine Learning algorithms in the full pipeline of the robotic system.









Tobias Norlund

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- CSE / DSAI, Chalmers
- Industrial PhD Students at Recorded Future
- Richard Johansson, Staffan Truvé, Marco Kuhlmann
- M.Sc. in Applied Physics and Electrical Engineering, Linköping University (2016)
- 2016-2020 Data Scientist, Schibsted Media Group
- Research topics Natural Language Processing
 - Representation Learning
 - Grounding through multiple modalities
 - Interpretability
- "Learning to Understand Natural Languages through Grounding"
 - Investigate methods for language learning by grounding the words to other non-text modalities



CHALMERS



Ulme Wennberg

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- PhD student at the department of Speech, Music and Hearing, KTH
- Supervisor: Gustav Henter, Jonas Beskow
- MS Machine Learning, KTH, 2019
- Research Assistant, Paul G. Allen School of Computer Science, USA, Spring 2019
- Software Engineer, Microsoft USA, 2019 2020
- Research topics:
 - Artificial Intelligence
 - Natural Language Processing
 - Graphics
- Robust approaches for applications in Artificial Intelligence
 - Positional Encodings for Transformers in NLP Pretraining
 - In-betweening frames in Graphics







Vilhelm Agdur

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- Department of Mathematics, Uppsala University
- Main supervisor: Fiona Skerman
- Research topics:
 - Random Graphs
 - Particularly clustering thereof
- To what degree can a random graph be divided into distinct parts, with mostly edges within parts? A kind of null model for clustering. Turns into sort of a statistical mechanics problem.





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Vincent Szolnoky

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- Mathematical Sciences, Chalmers
- Industrial PhD Student at Centiro Solutions
- Rebecka Jörnsten, Balázs Kulcsár
- MSc Applied Mathematics and Computational Science at Chalmers
- Data Scientist
- Research topics
 - Infinitely wide neural networks
 - Low-rank, sparse kernel approximations
 - Kernel methods
 - Semi-supervised learning



centiro







Xixi Liu xixil@chalmers.se

- Electrical Engineering, Chalmers
- Computer Vision and Image Analysis Group
- Supervisor: Christopher Zach
- Master, Communication Engineering, Chalmers (2019)
- Full-time Research Intern at Huawei Research Centre, Gothenburg, 2019-2020
- Research topic
 - 3D representation learning
- Preliminary Project: Learning image relations
 - Using Restricted Boltzmann Machine (RBM) not CNN to learn image relations. More specifically, to learn the similarities of two images.







Yaroslava Lochman

lochman@chalmers.se

- Department of Electrical Engineering, Chalmers University of Technology
- Supervisor Prof. Christopher Zach
- MSc, Ukrainian Catholic University (2020)
- Research Intern, Facebook Reality Labs (2020)
- Research topics
 - Geometric Computer Vision
 - Representation Learning
 - 3D Vision
- Learning and Leveraging Rich Priors for Factorization Problems
 - Developing methods that combine traditional parametric formulations induced by domain expertise with non-parametric models learned from examples.
 - Applied to non-rigid structure-from-motion.





CHALMERS UNIVERSITY OF TECHNOLOGY



Yifei Jin yifeij@kth.se

- School of Electrical Engineering and Computer Science, KTH Royal Institute of Technology
- Industrial PhD Students at Ericsson
- Prof. Aristides Gionis, Assoc. Prof. Sarunas Girdzijauska, Dr. Marios Daoutis
- Msc. in Wireless System, KTH (2017)
- Experienced Researcher in Ericsson Research (2017-2020)
- Research topics
 - Representation Learning
 - Graph Neural Network
 - Network Analysis
- Learning categorical representations in complex networks with graphs
 - Model Crowdsourcing data into graph representation, apply statue-ofthe-art graph representation learning algorithm to produce prediction
 - and insight, and further generate novel representation from realistic data.









- <Mathematics and Mathematics statistics>, <Umea University>
- <Armin Eftekhari, Jun Yu>
- <Master, Southampton University (2019)>
- Research topics
 - <Machine Learning>
 - < Optimization >
 - <Statistics>
- Over-Parametrized Machines Learning in Theory and Practice
 - Developing generalization ability of over-parameter learning.
 - What is the role of optimization algorithm in controlling the capacity of these machines?





