Prakhar **Verma**

Master's Student · Machine Learning, Data Science, and Artificial Intelligence · Aalto University

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Summary

I am a high energy, confident professional with an infectious enthusiasm for technology. Prior to my masters, I have worked with the R&D department of a multi-national company, a start-up, a public sector company, and an NGO. I possess a track record of good grades, certifications, projects, and presentations.

My research interests are, but not limited to, probabilistic deep learning, Bayesian learning, Gaussian processes, Spatio-temporal modeling, and their application in various fields.

Education

Aalto University — *Finland*

Master of Science (M.Sc.) — *2019 - Present*

- Major in Machine Learning, Data Science, and Artificial Intelligence
- Minor in Mathematics
- 4.7/5

Uttarakhand Technical University — *India*

Bachelor of Technology (B.Tech.) — *2012 - 2016*

- Specialization in Information Technology
- 79.03% (First Division with Honors)

Research Experience

Aalto University — *Espoo, Finland*

Research Assistant — *April 2020 - Present*

I am a member of the Aalto Machine Learning group headed by Prof. Dr. Arno Solin researching on probabilistic machine learning and latent dynamics.

TomTom — *Pune, India*

Software Engineer(R&D) — *July 2016 - August 2019*

I was a member of the R&D team which is responsible for devising, developing, and bringing into production various innovative and novel technologies. Majorly, my work revolved around machine learning(semantic segmentation), image processing, and automation with a focus on revolutionizing map data.

Teaching

Deep Learning (CS-E4070) — *Finland*

Aalto University — *Spring 2020*

- Teaching Assistant
- As one of the teaching assistants for the course, my responsibilities included assignments creation and supervision along with Prof. Dr. Alexander Ilin

Publications

- Fuzail Palnak^{+}, Kshitij Nikhal^{+}, Prakhar Verma^{+}, Ravi Panchani^{+}, and Sagar Rohankar^{+} "M.A.G.E.C: machine assisted geometry extraction and creation", Proc. SPIE 11433, Twelfth International Conference on Machine Vision (ICMV 2019), 114332Z (31 January 2020); https://doi.org/10.1117/12.2559438; $^{+}$: Equal contribution

Presentations

12th International Conference on Machine Vision — *Amsterdam*

Presented : M.A.G.E.C -Machine Assisted Geometry Extraction and Creation — *November 2019*

Google Developers Group 2018 — *India*

Presented : Tensorflow case study — *April 2018*

GeoSpatial World Forum 2018 *India*

Presented : Feature Extraction from Satellite Imagery *January 2018*

Accomplishments

- Awarded *"Dean Scholarship 2020"* at Aalto University.
- Awarded *"Face of TomTom 2018"* for actively representing TomTom in conferences and promoting the brand.
- Winner of TomTom *"Innovation Day 2018"*, presented an artificial intelligence plugin which bridges the gap between machines and cartographers.
- Mentor at "TomTom External Hackathon 2018".
- *"Electronic Health Record"* idea was selected in Top 10 at a national event, "India Ideathon 2015".

Internships

TomTom *Pune, India*

Intern (Bachelor Thesis) *January 2016 - June 2016*

- Researched and developed a toolkit for on-field map-making
- Thesis was nominated as the most innovative thesis at the university

Instano Technologies *Bangalore, India*

Software Intern *May 2015 - June 2015*

- I was able to explore the entrepreneur inside me
- Handled both the backend and frontend development of the product

Oil and Natural Gas *Dehradun, India*

Trainee *December 2014 - January 2015*

- Worked on the development of an *"Entry Pass Verification System"*
- It helps employees in obtaining the entry pass for their vehicles and security officer in identifying the vehicles

ETASHA Society *New Delhi, India*

Intern *June 2014 - July 2014*

- Worked on the testing and roll-out of CRM tool.
- Handled the data migration and conducted various training sessions

Projects

Spectral Graph Analysis

Aalto University *November 2019*

The project aims to perform graph partitioning with the use of Spectral Clustering on social network graphs. The goal is to minimize the number of cuts while maintaining cluster size balance.
More Details : Github Repository

Bayesian Statistics Global Warming

Aalto University *November 2019*

Today, one of the biggest threat to the society is global warming which would cause ice sheets to melt and water volume to expand, resulting in the rising of sea levels. Goal of the project was to examine how much the sea level rise would affect the coastal cities of Finland.
More details : Github Repository

Speaker Adaptation

Aalto University *November 2019*

Speaker adaptation uses various techniques to adapt a speech recognition system to user-specific acoustic features. The recognition performance of such systems has not reached that of speaker-dependent ones, though recent development in the processes has proven to improve the recognition results. In this project, we present the various speaker adaptation techniques based on various training methods and their respective results by performance levels (word error rate percentage).
More details : Research Paper

More Projects

Github

https://github.com/prakharverma