

Jyotirmay Senapati

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TECHNICAL SKILLS

Proficient: Python, PyTorch, scikit-learn/Pandas/Matplotlib/NumPy/NiBabel, Flask, Docker, MySQL, Agile/Scrum/Kanban, Data Analytics Algorithms, Deep Learning Products

Intermediate: JavaScript/TypeScript, HTML/CSS, Angular, Node, MongoDB, AWS, Heroku

WORK EXPERIENCE

Machine Learning Research Assistant — AI-Med, LMU Munich (Munich) **Apr 2019 - now**

Research group for AI in Medical Imaging, lead by Prof. Wachinger; develops machine learning models for healthcare

- **Tech stack:** Python, PyTorch, scikit-learn/Pandas/Matplotlib/NumPy/NiBabel, AWS, Flask, Docker
- Offered to work full-time starting in August 2020 after successfully working together on Master thesis
- Implemented state of the art deep learning models (Quicknat, U-Nets) for liver and spleen segmentation using nnU-net, Octave-Conv, SWA, SWAG, Thick-slices, Multi-phases
- Developed data pre-processing pipelines to prepare 23.000+ MRI scans for input into deep learning segmentation
- Built web application using Python/Flask/Docker to visualise MRI scans and its segmentations/heatmaps predicted by machine learning models; deployed using AWS EC2/S3/Lambda

Machine Learning Research (intern) — Disney Research Lab (Zurich) **Nov 2018 - Feb 2019**

- **Tech stack:** Python, Keras, Pandas/Matplotlib/NumPy
- Collected, cleaned and prepared datasets of facial expressions (e.g. cry, yawn) to be used to classify emotional reactions of movie viewers and measure which pieces of a movie are engaging
- Developed deep learning CNN models to classify 8 basic facial expressions from Cohn-Kanade dataset

Data Engineer (working student) — Quant-IP (Munich) **Mar 2018 - Oct 2018**

quant-ip.com is a data provider serving large financial institutions

- **Tech stack:** Python, Flask, TypeScript/Javascript, Angular, Ionic
- Built web application to visualise financial data and innovation score using Flask/Plotly at Bloomberg Magic
- Developed web and mobile application in Flask, Angular and Ionic to analyse and visualise company innovations and growth, based on patent data

Software engineer — Pega System (Bangalore, India) **Mar 2016 - Mar 2017**

American software company for customer relationship management and digital process automation

- **Tech stack:** JavaScript, HTML5, CSS
- Solved client issues in their web applications using JavaScript, HTML and CSS
- Trained 5 new employees as part of Pega recruitment and UI technology training group

Software engineer — Tata Consultancy (Bangalore, India) **Mar 2014 - Mar 2016**

Indian IT services and consulting company, largest company by market capitalization in India

- **Tech stack:** JavaScript, Angular, Node, MongoDB, HTML, CSS, PHP, MySQL
- Awarded TCS GEMS award for excellent coding skills among 500 co-workers at the Qualcomm account
- Managed and improved data consistency of 200.000+ records across 500 MySQL tables for Qualcomm application
- Developed user & administration interface and CRON tasks for Qualcomm learning management web application
- Built hybrid app with Angular used by employees of Qualcomm and TCS

EDUCATION

M.Sc. Informatics — TU Munich (Munich) **2017 - 2020**

- Above-average student with GPA 2.1 and [master thesis](#) which was accepted at MLMI2020 (machine learning conference on medical imaging): Analysed deep learning model accuracy using PyTorch/scikit-learn/NumPy; compared 4 state of the art Bayesian neural networks for image segmentation and developed improvements
- **i-Graph project:** Wrote web application in TypeScript using RASA-NLU to translate language into SQL queries
- **Expression prediction project:** Detected emotions on image and video data using PyTorch and OpenCV
- **Allianz HackaTUM-2019:** Won 1st prize out of 37 teams for detecting cracks on metal using image analysis

Bachelor Electronics and Communications — Gandhi Institute (Gunupur, India) **2009 - 2013**

- Above-average student (top 15%, GPA 8.3); wrote bachelor thesis detecting cracks in railway tracks based on data

OTHER

Languages: English (very good), German (basics)