Matej Ciglenečki

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Data Science student with over one year of experience who is highly interested in Deep Learning, Data Science, and Machine Learning. I'm a strong communicator who can present solutions clearly and understandably. Throughout my work and academic experience, I've developed excellent problem-solving capabilities accompanied by a strong sense of ownership.

Experience

Photomath – Software Engineer Intern July 2022 – Oct 2022

- Developed and deployed cloud services that parse, transform, enrich and deliver millions of events used for verifying Photomath's core regression tests (**Python, GCP, Datastream, Pub/Sub, Dataflow, Cloud Run, GitHub Actions**).

Memgraph – Software Engineer Oct 2020 – Oct 2021

- Designed a **PostgreSQL** database schema and wrote feature specifications for Memgraph Cloud platform. After successful implementation, the platform achieved 300% user growth in the first month.
- Implemented Memgraph Cloud's backend (**node.js, TypeScript, Express, Sequelize, PostgreSQL**) that supports 400+ active users, manages **AWS EC2** instances, and supports monthly user billing based on user usage.
- Set up **Elastic Stack** on **AWS EC2** to analyze application logs (**AWS CloudWatch**) in **Kibana** dashboards.
- Wrote unit and integration tests (**Jest**).
- Wrote educational lessons and created graph datasets (**Memgraph, Cypher**).

Memgraph – Software Engineer Intern July 2020 – Oct 2020

- Implemented geographic graph data visualization in Memgraph Lab (**TypeScript, Leaflet**).
- Refactored codebase via design patterns (**TypeScript**).
- Wrote a summary blog post.

Skills

Languages: **Python, TypeScript, C++, C, Java, R, SQL, bash**
Technologies: **git, numpy, pandas, scipy, matplotlib, PyTorch, scikit-learn, torchvision, PyTorch Lightning, GCP, AWS, node.js, FastAPI, PostgreSQL, Linux, Docker, Elastic Stack**
Other: **Data Science, Deep Learning, Statistics, Machine Learning, Computer Vision, Generative Models, Data Structures, Algorithms, OOP**

Education

M.Sc Data Science – Faculty of Electrical Engineering and Computing, Zagreb, Croatia Oct 2021 – July 2023 (expected)
relevant courses: Machine Learning, Deep Learning, Statistical Data Analysis, Multivariate Data Analysis, Technology Entrepreneurship, Mathematical Finance, Business Intelligence, Advanced Algorithms and Data Structures

B.Sc Computer Science – Faculty of Electrical Engineering and Computing, Zagreb, Croatia Oct 2017 – July 2021
relevant courses: Probability and Statistics, Artificial intelligence, Algorithms and Data Structures, Object Oriented Programming, Design Patterns, Databases,, Communication Networks, Network Programming, R language

Workshops and projects

LUMEN Data science competition – GeoGuesser AI Agent 2022

- Led a finalist team of three. The goal was to predict the location of 64 000 Google Street View images in Croatia.
- Achieved 2nd place in model performance with a mean error of 22km, measured as the great-circle distance from the true to the predicted location.
- Used **Python**, **PyTorch**, deep learning, geospatial feature engineering and computer vision methods to transform geographic data, process images, train multiple models and predict locations of unseen Google Street View images.
- Implemented a **FastAPI** server that allows inference on a trained model.
- Wrote project documentation and technical documentation.

Implementation of driver fatigue detection in an EEG-based system – Data Science course project 2022

- Successfully reproduced results and methods described in the research article with **Python**.
- Performed data analysis and feature extraction on driver's EEG data. Processed 7200 seconds worth of EEG data.
- Trained 4 different models, successfully predicted driver's fatigue with **scikit-learn** with +99% accuracy, and achieved 1% better results compared to the research article.

AI BattleGround hackaton – AI Agent 2022

- Worked in a team of four. Implemented a software agent in **Python** which plays against other agents in a turn-based game. Agents communicate via a streaming protocol, and based on the game's state the agent tries to perform the optimal move (*attack*, *switch characters,* or *use an item*). The game consists of multiple different characters, actions, and modifiers.

Student success analysis – Statistical Data Analysis course project 2022

- Led a team of 4 in the Statistical Data Analysis course project written in **R**.
- Analyzed student success data with the following statistical methods: t-tests, chi-squared test, Fischer's test, normality tests, f-tests, ANOVA, and linear regression.
- Wrote a final report which describes the theory and the context of used statistical methods used in the project.

Soft skills academy – leadership group 2020

DataCrunch – data science academy 2019, 2018

- Predicted next year's bankruptcy of Croatian companies with machine learning techniques written in **R**.

Interests

Data Science, Deep Learning, Computer Vision, Machine Learning, Statistics, Computer Science, Software Engineering, Competitive Programming, System Design, Finance, Leadership, Team Cohesion, communication skills, soft skills, personal development, health, reading, martial arts