Matej Ciglenečki

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Computer Science student who is highly interested in deep learning, computer vision, and data science. Through my academic and work experience, I've developed excellent problem-solving capabilities accompanied by a strong sense of ownership. I'm fascinated by well-written libraries, software modularity, and design principles.

Experience

Oct 2020 – Oct 2021 — Software Engineer – Memgraph
- designing SQL database and writing feature specs for Memgraph Cloud's backend
- implementing Memgraph Cloud's backend (**node.js, TypeScript, Sequelize, postgres**)
- writing unit and integration tests (**Jest**)
- setting up **Elastic Stack** on **AWS EC2** to analyze application's logs from **AWS CloudWatch**
- creating educational lessons (**Memgraph, Cypher**)

July 2020 – Oct 2020 — Software Engineer Intern – Memgraph
- implementing geographic graph data visualization in Memgraph Lab (**Leaflet, vis.js**)
- refactoring codebase (**TypeScript, Angular**)
- writing a summary blog post

July 2019 – Aug 2019 — Technical assistant – Conty Plus
- file parsing and data transformations (**Python**)

Education

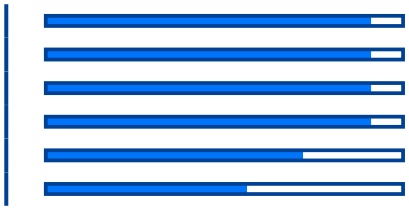
2021 – present — **M.Sc Computer Science** – Faculty of Electrical Engineering and Computing, Zagreb
relevant courses: Deep Learning, Machine Learning, Statistical Data Analysis, Multivariate Data Analysis, Advanced Algorithms and Data Structures, Technology Entrepreneurship, Mathematical Finance, Business Intelligence

2017 – 2021 — **B.Sc Computer Science** – Faculty of Electrical Engineering and Computing, Zagreb
relevant courses: Design Patterns, Databases, Probability and Statistics, Artificial intelligence, Communication Networks, Network Programming, Fundamentals of Business Information Systems, R language

2013 – 2017 — School of Electrical Engineering, Zagreb

Skills

machine and deep learning	**PyTorch, scikit-learn, torchvision, PyTorch Lightning**
data science and statistics	**R, Python, numpy, pandas, matplotlib**
script languages	**Python, bash**
web dev backend	**node.js, Sequelize, TypeScript, FastAPI**
databases	**postgres, SQL, Memgraph, Cypher**
web dev frontend	**React, TypeScript, HTML, CSS**
other skills	git, Linux, Docker, Elastic Stack, C, Java



Workshops and projects

2022 — LUMEN Data science competition – GeoGuesser AI Agent
- Led a team of 3 and got 2nd best model performance. The goal was to predict the location of Google Street View images in Croatia. Geospatial feature engineering, deep learning, and computer vision methods were used to achieve a mean error of 22km, measured as the great-circle distance from the true to a predicted location.
- The final solution included project documentation, technical documentation, and a local server which allowed inference on a trained model.

2022 — AI BattleGround hackaton
- The goal of the hackathon was to create an agent who would play against other agents in a turn-based game. At the beginning of the game, the agent initializes a creature pool, after which the agent decides which action to perform next (*attack*, *switch positions of creatures* or *use an item*) based on the game's state.

2022 — Implementation of driver fatigue detection in an EEG-based system – Data Science course project
- Performed data analysis and feature extraction, trained multiple models, and predicted driver's fatigue with slightly better results compared to the research article.

2021 — Student success analysis – Statistical Data Analysis course project
- Led a team of 4 in the Statistical Data Analysis course project written in R. Analysis methods described in the final report include t-tests, chi-squared test, Fischer's test, normality tests, f-tests, ANOVA, and linear regression.

2020 (1 week) — Soft skills academy – leadership group

2019 and 2018 (1 week) — DataCrunch – data science academy
- predicting bankruptcy of Croatian companies with machine learning techniques in R

2019 (2 months) — AG04 – Spring Boot Summer School
- completing a Java Spring course
- building a web application with Java Spring in a 2-day hackathon in a group of 5 people

Hobbies

Cooking, body-weight exercising, running, reading, photography, learning, side-projects

Interests

Computer science, software engineering, data science, deep learning, computer vision, machine learning, statistics, competitive programming, finance, leadership, team cohesion, communication, soft skills, personal development, health, privacy, music