

Matej Ciglencečki

Software engineer with over one year of experience, highly interested in computer science, software engineering, and machine learning. I'm a strong communicator who can present findings clearly and understandably. Throughout my work and academic 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.

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Education

M.Sc Data Science – Faculty of Electrical Engineering and Computing , Zagreb, Croatia <i>relevant courses: Advanced Algorithms and Data Structures, Advanced Operating Systems, Parallel Computing, Business Intelligence, Numerical Mathematics, Machine Learning, Technology Entrepreneurship</i>	Oct 2021 – July 2023 (expected)
B.Sc Computer Science – Faculty of Electrical Engineering and Computing , Zagreb, Croatia <i>relevant courses: Algorithms and Data Structures, Object Oriented Programming, Design Patterns, Databases, Probability and Statistics, Communication Networks, Network Programming</i>	Oct 2017 – July 2021

Experience

Photomath – Software Engineer Intern • 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).	July 2022 – Oct 2022
Memgraph – Software Engineer • Designed a PostgreSQL database schema and wrote feature specifications for Memgraph Cloud platform. After the 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 for Memgraph Cloud's backend (Jest). • Wrote educational lessons and created graph datasets (Memgraph , Cypher).	Oct 2020 – Oct 2021
Memgraph – Software Engineer Intern • Implemented geographic graph data visualization in Memgraph Lab (TypeScript , Leaflet). • Refactored codebase via design patterns (TypeScript , Angular). • Wrote a summary blog post .	July 2020 – Oct 2020

Skills

Languages:	Python, TypeScript, C++, C, R, SQL, bash
Technologies:	git, NumPy, PostgreSQL, Linux, Docker, Elastic Stack, GCP, AWS, node.js, express.js, FastAPI
Other:	Data structures, Algorithms, OOP, Design patterns, Operating systems, Machine learning, Statistics

Workshops and projects

LUMEN Data science competition – GeoGuesser AI Agent • 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.	2022
Implementation of driver fatigue detection in an EEG-based system – Data Science course project • 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.	2022
AI BattleGround hackaton – AI Agent • 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 (<i>attack, switch characters, or use an item</i>). The game consists of multiple different characters, actions, and modifiers.	2022
Student success analysis – Statistical Data Analysis course project • 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.	2022
Soft skills academy – leadership group	2020
AG04 – Spring Boot Summer School • Developed a web application with Java Spring in a group of 5 and completed a Java Spring course.	2019