TAMARA MITROVSKA

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EDUCATION

Massachusetts Institute of Technology (MIT) — **Cambridge, MA**
Master of Engineering in Computer Systems, GPA: 5.0/5.0 — June 2023

Massachusetts Institute of Technology (MIT) — **Cambridge, MA**
Bachelor of Science in Computer Science and Engineering, GPA: 5.0/5.0 — May 2022

Yahya Kemal College (High School) — **Skopje, North Macedonia**
Valedictorian, GPA: 5.0/5.0, International Math Olympiad ('17, '18) — June 2018

EXPERIENCE

MiiM — **Cambridge, MA**
Software Engineer — Jul 2023 - present
- Built two new web applications in AngularJS following Material Design principles, which are used on a daily basis
- Set up a robust test suite using Jasmine and Cypress for unit and end-to-end testing, and integrated it into a CI/CD pipeline in CircleCI which resulted in a faster and more reliable deploy process
- Implemented REST API endpoints using Java and PostgreSQL to provide communication between the back-end services and the web applications
- Used Terraform to set up and deploy AWS infrastructure like static website hosting through AWS S3 and Cloudfront
- Implemented a trajectory similarity algorithm in Python which improved data processing efficiency
- Participated in an on-call rotation, diagnosing errors and performance issues to ensure overall system health

MIT CSAIL - COMMIT Group — **Cambridge, MA**
Graduate Researcher — Sep 2022 - May 2023
- Researched regular expression matching algorithms and optimization methods used by engines like RE2 and Hyperscan
- Developed a high-performance regular expression library in C++ using multi-stage programming with BuildIt

Akamai Technologies — **Cambridge, MA**
Software Engineering Intern — Jun - Aug 2022
- Implemented a bin packing heuristic to optimize server allocation to geographic regions
- Developed a pipeline for comparing and analyzing current and forecast traffic data using Python, SQL, bash
- Implemented knee detection algorithms to estimate the cache space required for certain content classes based on cache hit graphs

MIT CSAIL - CAP Group — **Cambridge, MA**
Undergraduate Researcher — Feb - May 2022
- Generated method signatures and docstrings in Python from user provided natural language app descriptions by interacting with GPT-3 through question-answer prompts
- Implemented a new web application feature in ReactJS to demonstrate the method signature generation

MIT CSAIL - COMMIT Group — **Cambridge, MA**
Undergraduate Researcher — Feb - May 2022
- Developed a high-performance convolutions library in C++ using multi-stage programming with BuildIt
- The library supports code generation for arbitrary dimensions and has its own scheduling language for parallelization, vectorization, loop tiling, loop unrolling, etc.

MIT CSAIL - ALFA Group — **Cambridge, MA**
Undergraduate Researcher — Feb 2020 - Dec 2021
- Helped implementing an adversarial attack for code related ML models by performing optimally selected AST transforms; used Python, PyTorch, bash, Docker
- Used the attack to evaluate and improve the robustness of state-of-the-art code models to adversarial attacks
- This project led to publications at the ICLR 2021 and SANER 2023 conferences

InstaDeep — **Tunis, Tunisia**
Software Engineering Intern — May - Aug 2020
- Prepared a report on the recent literature about the 3D bin packing problem
- Implemented heuristics in Python to improve the volume utilization of existing 3D bin packing algorithms

International Institute of Information Technology — **Hyderabad, India**
Information Retrieval and Extraction Lab Intern — Jun - Aug 2019
- Prepared a dataset by scraping Instagram posts based on hashtags and developed a binary classifier using traditional ML models to separate body shaming posts from other content on Instagram
- Made a user interface to show the functionality of the classifier using Python and Flask
- This project led to a publication at the Soc Info 2022 conference

SKILLS

Technical skills: Python, C/C++, Java, Linux/bash, SQL, HTML, CSS, JavaScript, AngularJS, Git, AWS
Languages: English (proficient), Macedonian (native), Turkish (intermediate), Spanish (intermediate)