Yekta Demirci

Proficient software engineer with an MASc degree, over three years of development experience, certified cloud architect

🌐 yektademirci.me | ✉ yekta.dmrc@gmail.com | 📞 +1 226 808 5710 | YektaDemirci | yektaD

EDUCATION

University of Waterloo
MSc in ECE | Software Engineering
09/2019 - 02/2022 | Canada
cGPA: 93%

Middle East Tech. University
BSc in EE | Software & Networks
08/2014-05/2019 | Turkey
Honour Student, in the top 10%

KAIST - Korea
Exchange Student - 2016
NTU - Singapore
Exchange Student - 2016

SKILLS

Programming languages:
• Python • Modern C++/C • Java
• JavaScript • TypeScript • MySQL
Technologies:
• Django • React • Docker • Azure
• Git • REST APIs • GraphQL • Redis
• CUDA • NoSQL (MongoDB) • Kafka

COURSEWORK

Graduate
Algorithm Design & Analysis
Software Systems & Mathematical Logic
Principles of Software Architecture
Data Modelling & Analysis
Computer Networks
Database Systems
Undergraduate
Data Structures
Image Processing
Introduction to Machine Learning

AWARDS & HONOURS

Graduate Research Studentship
University of Waterloo | 2019-2022
Inter. Master's Award of Excellence
University of Waterloo | 2020-2022
Ranked 474th, in the top 0.035%
National University Entrance Exam

SERVICE & LEADERSHIP

Volunteer Mentor | 2023-PS
To the earthquake victims, Dayanismafakultesi
Volunteer Tutor | 01/2021-06/2021
Family & Children Service Waterloo
Leader Scout | 2014-2016
METU Scout Team

EXPERIENCE

Interaptix Augmented Reality | Backend Software Eng. | 04/2022-08/2023
- Reduced P99 latency of several endpoints from minutes to milliseconds (ms), achieving [50-300%] times faster responses through optimizations, including refactoring database (db) queries, nested serialization and caching; changes in the **frontend & backend**.
- **Parallelized** a frame-extraction micro-service which was the most time-consuming part of the business logic, achieved up to 10 times faster run-times.
- Created a granular permission logic for business-critical features.
- Deployed Supervisor process control system to prevent worker failures for production.
- Re-architectured several **REST** endpoints into **GraphQL** using strawberry library.
- Implemented **telemetry** based data collection to monitor microservices on **Azure cloud**.
- Implemented a CI runner to track memory usage of an open3D micro-service.
- Developed several APIs for both customer-facing and internal features.

University of Waterloo | Graduate Research Assistant | 01/2020 - 02/2022
- Designed L2 schedulers using **open source** platforms w. **large code-bases** in C/C++.
- Achieved **%500 less packet latency** and up to **%3 more system throughput** compared to the State of the Art solution under various traffic loads. More details can be found here.
- Implemented a Poisson traffic generator, **UDP clients/servers** with NTP in **Python**.
- Developed new APIs with the use of **protobuf** to change the system state in real-time.
- Prepared guides to set up a private LTE cellular network in emulation and hardware.
- Supervised by Prof. Mahesh Tripunitara and Prof. Catherine Rosenberg.

ASELSAN | Software Engineer | 06-08/2019
- Successfully implemented a real-time edge and ball detector with a CLI to enable modifying various parameters (Gauss. Blur window size, sigma etc.) on the fly using built-in **CUDA** modules in **C++** with a JETSON TX2 device. Achieved up to **40 FPS**.

University of Washington GEMSEC Lab | Research Intern | 07-09/2018
- Worked with the data-science team of GEMSEC computational biomimetics group.
- Implemented an app that can pre-process various types of metal binding peptide data, creates different tensors, and predicts new ones. An hour run-time for 1000 peptides.
- Used built-in PCA & **self-written wavelet transforms** for feature extraction.
- Analyzed the relation b/w. various properties and metal binding using scikit-learn lib.
- The Report: "A Generalized Similarity Metric for Predicting Peptide Binding Affinity".

PROJECTS

HoloLens 2 fundamentals: developing mixed reality apps | 2022 | Code
- Completed Microsoft HoloLens 2 fundamentals modules to learn the essentials about hand interaction, object tracking, 3D object interaction, eye-tracking and spatial anchors.

Food Hunter Web App | 2021 | Code
- Created a web-app using agile methods with a group of five people.
- Created Selenium based unit, integration and system tests.

Flow level, HTTP-2 Classification with ML Algorithms | 2020 | Report | Code
- HTTP versions were classified with 90% accuracy using only some high level metrics.
- KNN, SVM, CART, ANN models were trained using a large web traffic collection.

Multi-threaded Inter-Process Communication (IPC) in C++ | 2020 | Code
- Implemented a project that involved **multi-threading** and IPC in **C++**.

Design and Implementation of an Autonomous 2D SLAM Robot | 2018 | Report
- Designed and built a robot with a group of five people as a bachelor capstone project.
- Implemented noise-filtering, (novel) path-finding and object classification algorithms.
- Held weekly meetings with the client to understand the needs and provide updates.

CERTIFICATIONS

scrum.org: • PSPO-I • PSM-I   Microsoft: • AZ-305 • AZ-104 • AZ-900