Timofey Malko

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Education

University of California, Riverside **Sep. 2021 – Dec. 2023**
Bachelor of Science in Computer Engineering *Riverside, CA*

Projects

Platformer Game in Unity | *C#, Unity*
- Developed a Unity-based game in a team of five, following a Scrum process.
- Took responsibility for the coding aspect of a project, producing 60% of scripts by implementing in C# player-related mechanics.
- familiarizing others with Unity's Version Control system, ensuring smooth collaboration by resolving all merge conflicts.

Kubernetes demo | *Google Cloud Platform, Kubernetes*
- Studied and applied Kubernetes fundamentals, by managing a GKE cluster and related resources using Terraform.
- Deployed a demo app with Helm, featuring PostgreSQL and a REST server (Rust, Axum framework) exposed via Ingress.
- Utilized GitHub Actions for CI/CD to build and deploy Docker images to Artifact Registry.

Weather Station | *Amazon Web Services, Docker*
- Managed website hosting and deployment on an EC2 instance with an RDS MySQL database.
- Set up SSL certificate using Let's Encrypt and configured Google Domains.
- Improved image size by adding multiple stages to the Docker build.
- Assisted in researching and integrating Kafka for multi-team data collection.

Machine Learning Projets | *Python, NumPy, Keras*
- Learned and implemented a perceptron and then a neural network with backward error propagation using NumPy for a classical number recognition problem.
- Trained a depth map model using Keras.
- Implemented a genetic algorithm in Python for a grid-based life simulation.
- Developed a Rust-based nearest neighbor classifier with a forward/backward heuristic-based search, applying my knowledge of data structures to improve performance by ten times compared to the common naive approach.

Electric Lock Mockup | *C*
- Engaged in embedded C programming on the FRDM-K64F platform and assembled electronic components.
- Implemented logic with concurrent state machines.
- Adopted an Arduino LC display library for the platform to overcome the lack of platform support.
- Used onboard timers and interrupts to improve the reliability of sensors/triggers readings.

Web Projects | *TypeScript, React, Java, Spring Boot*
- Implemented the design, using React components for data presentation page and related services in Java backend using Spring Boot framework. Used Postman to test services' correctness.
- Using Spring Boot framework and Dialogflow, made a simple telegram bot. The users and command history were stored in a MySQL database.

Other Class Projects | *OOP Patterns, Data Structures*
- Learned and implemented in C++ common OOP Design Patterns like Composite, Factory, strategy, etc.
- Used Valgrind to ensure memory safety and Google Test to verify the correctness.
- Implemented a MIPS CPU in Verilog.

Technical Skills

Programming Languages: Java, Rust, C, C++, C#, Python, TypeScript, Verilog, SQL
Cloud: AWS (EKS, ECR, EC2, RDS, S3, Lambda), GCP (GKE, Cloud Run, Artifact Registry, Dialogflow, Firebase, Cloud Functions)
Infrastructure as Code: Terraform, Helm **VCS/CICD:** Git, GitHub, GitLab, GitHub Actions **Containerization:** Kubernetes, Docker
Technologies/Frameworks: PostgreSQL, MySQL, SQLite, Axum, Spring Boot, React, Keras, NumPy, Unity, Unity VCS, Postman, Valgrind, Google Test

Summary

I am a final-year student seeking a software development role where I can enhance my programming knowledge and skills, contributing to the team's success.