Dilraj Devgun

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Education

University of Washington Seattle, WA
BS Computer Science *GPA: 3.75* Aug 2015 - Jun 2019

Experience

Meta New York, NY
Senior Software Engineer - Instagram Web Server Oct 2022 - Present

- Joined the Instagram Web Server team responsible for performance, scalability, and reliability of IG infrastructure
- Improved Instagram Django server fleet efficiency by >3% saving the org $8 million annually by optimizing the refcounting in the implementation of immortal instances in the cpython runtime
- Reduced network overhead between internal Facebook and Instagram severs by implementing a streaming RPC protocol for requests that require back and forth communication between the two fleets
- Optimized memory usage of IG's server fleet by analyzing various production metrics to find patterns and opportunities across the stack
- Increased host throughput during overload scenarios for Instagram traffic by implementing request timeouts and load-shedding in the reverse proxy

Senior Software Engineer - AR Glasses CV/ML Firmware Team Apr 2021 - Oct 2022

- Developed firmware for custom silicon that accelerates Computer Vision and Machine Learning workloads targeted for future AR Glasses products
- Adapted reference research Computer Vision algorithms into high-performance production C/C++ implementations to produce depth maps from raw sensor data in an embedded system
- Represented the systems team in the cross team effort between research, software, and hardware teams for the zero-to-one development of Meta's first 3D volumetric reconstruction pipeline for human holographic representation
- Assisted in pre-silicon validation for custom hardware CV and ML accelerators

Microsoft Redmond, WA
Software Engineer Aug 2019 - Apr 2021

- Software development for custom ASIC on the HoloLens, IVAS Project, and future AR devices
- Integrated sensors and assisted device bring-up by writing drivers and providing APIs for consumers to access data
- Tripled frame rate for IVAS cameras by implementing shared memory buffer libraries in an embedded memory constrained environment
- Maintained a set of internal C++ tools that record, analyze, and replay streams of sensor data to debug runtime algorithms
- Decreased factory costs and increased output yields by 50% through implementing novel computer vision algorithms to calibrate display and cameras in factory pipelines
- Debugged problems across the stack from application, OS, to firmware layers

Microsoft Redmond, WA
Software Engineering Intern Jun 2018 - Aug 2018

- Automated dependency management for internal projects by implementing an Azure hosted microservice and web app using .NET Core, Angular, C#, and TypeScript

Projects

Meraki *Swift, Objective-C, Google Cloud Platform, Figma* merakiapp.co
Designed, developed, and maintained an task management iOS app which aims to be an exploration of novel UI and UX methods to improve productivity by reducing the mental taxation of task management and elicit feelings of calmness, relaxation, and clarity. The original project was on Apple's Best New App section in Germany, Sweden, and Austria

Skills

Fluent Programming Languages:	C, C++, Java, Python, Swift, Objective-C, C#
Intermediate Programming Languages:	JavaScript, Rust, Go