Mikhail Skobov

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Work Experience

Lyft - Bikes and Scooters November 2020 - Current
Staff Firmware Engineer *C, C++, Bazel*

- Engineering lead for a docking stations program; managing a small team, providing technical mentorship, and driving the firmware architecture and general technical direction for the program.
- Designed a networking architecture, with cross-functional partners, focusing on improving power consumption in LTE-based devices. This involved gaining a deep understanding of LTE architecture at the physical layer, optimizing the networking transport layer configuration, and working directly with the mobile provider for further tuning and diagnostics.
- Core contributor to, and maintainer of, the firmware team's embedded platform, which nearly all embedded projects at Lyft are based on. This platform provides common libraries, drivers, design patterns, and a build system which greatly improves the org's productivity.
- Built and shipped Lyft's newest rideable, which received a **TIME's Best Inventions of 2021 Award**. My contributions were focused on: UX (display, audio, lights, etc.), GPS, internal storage, faults, and backend communications.

Lyft - Transit October 2018 - November 2020
Senior Software Engineer *Go, Python, C++, Kafka*

- Developed a high performance, highly-available multimodal routing engine. This was able to provide optimal route results for transit itineraries, but also allowed different modes such as walking, biking, and cars.
- Helped grow the transit team from a startup (within Lyft) to a large engineering team; lead initiatives to improve the architecture, specifically focusing on reliability, fault-tolerance, and developer tooling.
- Built an agent-based solution for ingesting real-time transit data, which greatly improved realtime routing results and saved Lyft $100K annually, relative to the legacy solution.

Pioneer Square Labs - AdLightning June 2017 - October 2018
Senior Software Engineer *Python, Javascript, AdTech*

- Designed & built the market-leading malicious advertisement blocking platform for publishers. This protects millions of users from forced redirects and malware.
- Implemented a large-scale, microservice-based system for markup processing that is currently handling >40MM daily ad content reports.
- Implemented a locality-sensitive hashing algorithm for ad content similarity detection, which greatly helps reduce costs by omitting creatives which have already been processed.
- Drove the design and architecture on our programmatic video advertisement analysis tool.
- Contributed to the UI and back-end service for the main publisher interface.

Microsoft – Interact Next Feb 2016 - June 2017
SDE II *C++, C#, Interaction Design, Accessibility*

- Developed numerous features for the user-facing component of the Surface Dial.
- Created compelling prototypes for ambient, multi-user, and/or multi-device interactions and worked with partner teams to incorporate these experiences into their products.
- Designed and fabricated hardware development boards for evaluating user interactions with physical concept devices.
- Built concepts for wearables, and accessories to the Windows ecosystem.

Microsoft – LLILUM June 2015 - Feb 2016
SDE II *C, C++, Assembly, LLVM*

- Implemented drivers for low-level communication protocols (SPI, I2C, Serial, etc.).
- Designed the middle-tier interface between C code and the managed-language interface created by LLVM.
- Created and maintained the Visual Studio-based SDK for the platform, and was responsible for overall user experience.
- Ported the light-weight IP stack and numerous other libraries for use from C# on an embedded platform.

Microsoft – Web Platform August 2014 - June 2015
SDE *C++, Win32, UWP*

- Developed and maintained features that involved mouse, touch, or keyboard input.
- Built the infrastructure/core for the native date-time input control (<input type="date">).
- Implemented Drag and Drop using new WinRT APIs, and developed cross-WWA drag support.
- Contributed to portions of the Javascript runtime and tested against W3C specifications.
- Shipped the first version of the Edge browser on Windows 10.

Microsoft – SQL, Azure Summer 2022, 2023
Intern *C#, SQL, Azure*

- Developed a data-generation tool for testing the MDS feature of SQL.
- Created test plans and wrote automated tests as part of complete feature ownership.
- Worked on debugging stored procedures through SQL Server Management Studio.
- Created a secure phone application for notifying developers of build and live errors.

Maverick Software – Thomson Reuters May 2010 - May 2013
SDET Consultant *C#, Java, Javascript, Accesibility*

- Developed web applications using C# and ASP.NET, and created Selenium functional tests.
- Worked on 508 Compliance trackers to provide accessibility features for the visually-impaired.
- Rewrote components of a web application from ASP to ASP.NET.
- Worked with large quantities of data for document retrieval/presentation services.

Education

University of Washington March 2017 - May 2020
M.S. Computer Science

- Programming Systems: theory of P.S. for modern languages and architectures
- Machine Learning: theory and impl. of decision trees, neural nets, SVM, clustering, and others
- Entrepreneurship: built a tech startup from the ground up; pitched to VCs in the industry
- Natural language processing, cryptography, advanced algorithms, and others.

University of Washington Oct. 2016 - May 2017
Certificate: Embedded & Real-Time Systems Programming

University of Wisconsin - Madison Sept. 2010 - May 2014
B.S. Computer Science

- Computer Engineering: Embedded Systems Emphasis

Projects

Personal Monorepo

- Single repo containing all of the things I enjoy dabbling with
- Terraform-based infra configuration, with simple, containerized microservices; optimized for simplicity
- Firmware source and hardware design files for embedded projects

Patents

U.S. Patent 16/805,135: Transition of navigation modes for multi-modal transportation
U.S. Patent 16/836,141: Multi-modal route generation system
U.S. Patent 15/610,432: System and method for directed analysis of content using artifical intelligence for storage and recall
U.S. Patent 15/397,238: Disambiguation of target devices using ambient signal data