Xyan Bhatnagar

Software Engineer

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Work Experience

Cast @ Google

Location: San Francisco, California
Role: L5 Senior Software Engineer
Duration: May 2023 - Present
Technologies/Skills: C++, Bazel, Linux, POSIX, Typescript, Java
Accomplishments:

- Reduce memory and disk usage of Cast with Organ project
  - Modularization project that splits the existing **C++** business logic of Cast into individual libraries
  - Based on individual OEM partners, we build in the specific features that are going to be used
  - Resulted in reduction of Cast library file size by ~**3-5MiB** for multiple OEMs.
  - Deployed to **1M+ devices** in the field.
- Reduced RSS memory usage of Cast with CELL project
  - Cast had high RSS usage (>20MiB) on TVs while idle. This was a big roadblock to expanding to more OEM partners.
  - CELL is a lightweight **C++** daemon that advertises Cast capabilities and launches Cast only when a user starts Casting.
  - Resulted in Cast idle memory usage dropping to under **10MiB** for most OEM partners.
  - Deployed to **1M+ devices** in the field.
- Created Cast Settings app to control important settings, provide helpful instructions and see the status of Cast
  - Built in **Typescript**, supports 50+ languages, screen-readers and multiple modes of input (remotes, cursors, keyboards).
  - Deployed to **1M+ devices** in the field.
- Reduced friction of first cast by moving Terms of Service acceptance to occur on the phone
  - Android phones can accept Cast Terms of Service automatically on the first cast attempt.
  - This step used to be done on the Cast device, via the Cast Settings app.
  - Deployed to **all Android Devices** via latest Google Play Services update.

Fuchsia OS @ Google

Location: Remote, Canada
Role: L5 Senior Software Engineer
Duration: Oct 2021 - May 2023 (1 year, 7 months)
Technologies/Skills: Rust, Operating Systems Fundamentals
Accomplishments:

- Created high-quality developer tools for querying and debugging Fuchsia apps.
- Designed and implemented internal debug APIs that are used by the devtools.
- Designed and implemented “structured configuration” for Fuchsia apps - an alternative to POSIX-style command-line arguments.
- Created a chaos-monkey system in Fuchsia to create artificial load on critical system components and trigger subtle concurrency bugs.
- Fuchsia OS currently runs on **1M+ Nest Hub devices** in the field.

Internship Experience

Google

Number of internships: 5 (totaling 20 months)
Technologies/Skills: Java, Kotlin, Android, Go, Windows, C++, Google Cloud

Education

University of Waterloo

Degree: Bachelor of Computer Science
Location: Waterloo, Ontario, Canada
Duration: Sep 2015 - Apr 2020

- Graduated with distinction (Dean’s Honor List)
- Took 2 of the “Big 3” courses (Compilers, Real Time Operating Systems) in final term