Darren Tsung

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Employment History

Senior Backend Engineer / Tech Lead   Jan 2018 – Present

OneSignal – *Rust, Go, Kafka, Postgres, Redis, Kubernetes*

- Owner of the notification delivery pipeline, responsible for sending >5.5B pushes per day. Improved deliveries per sec (DPS) from 50k/sec to >1.8M/sec. Built email delivery, batched deliveries, and many more features.
- Implemented high-throughput Go web server which now handles 50% of incoming traffic (30k ops/sec) with 5 nodes, previously required 75 Rails servers. Migrated traffic with zero-downtime via a custom reverse-proxy which was also used to ensure all different types of requests behaved the same.
- Incrementally shipped a refactor of the overgrown delivery code from a couple files with over 6k lines of code each to many modular classes <300 LOC and 96% test coverage.
- Initiated and led company-wide transition from Travis CI to CircleCI as well as other improvements, reducing largest codebase CI times from ~14-16 min to ~5 min.
- Built base Rust kafka consumer library, deployed and used in 7+ consumers which have handled up to 100k messages/sec.

Software Engineer, Games   Dec 2016 – Dec 2017

Tangible Play (Osmo) – *C#, Unity3D*

- Shipped the Osmo SDK, a Unity plugin that provides the computer vision / piece recognition as an API.
- Reformatted a 30k LOC codebase by modifying a C# code formatter to work with Unity projects.
- Improved code heath by writing a custom threaded static analysis tool in Unity as a pre-code-review check.

Software Engineer / Senior Software Engineer   Jan 2015 – Dec 2016

Storm8 – *C#, Unity3D, PHP*

- Created modular match-3 engine which simulates 1000's of games concurrently to report win-rates and other statistics to game design while building levels.
- Increased frame-rates by 200%+ on certain devices by implementing dynamic resolution downsizing.
- Increased ARPU (average revenue per user) by >100% by shipping Timed OrderSet feature.

Mobile Client Intern   May 2014 – Aug 2014

Electronic Arts (EA) – *Objective-C, Java*

- Automated fuzzy-testing edge cases by creating an Android application to parse user logs into sequences of API calls, reducing QA testing time and increasing stability.

Skills & Interests

More projects, descriptions, and images can be found at http://www.darrentsung.com/

Open Source Projects *(Rust, C#, Unity3D)*

- 15+ open-source frameworks / tools (combined 400+ stars on Github) that range from automated validation tests to full-featured localization frameworks.

Technical Writing

- Series of articles about reducing compile time, state machines, etc. with over 80k+ combined views.

Other: Rust, Go, Kafka, Postgres, Redis, Terraform, Nomad, Kubernetes.

Education

University of California Berkeley   Aug 2012 – Dec 2014

B.A. Computer Science