Ryan Dailey

• 4733 19th Ave. NE, Seattle, WA 98105 • (509) 953-2850 • dailey.ryan@outlook.com

PROFESSIONAL EXPERIENCE

Frontend Engineering Intern
HBO **June 2019—August 2019, Seattle, WA**

- Developed a React based UI dialog which asks HBO users "Do you want to continue watching?" after a preset number of episodes have been watched
- Worked alongside the design team to determine when and how the prompt should be triggered
- Ramped up on HBO's video PAL and its platform dependent video player engines
- Wrote extensive unit and functional verification tests, and deployed to the production environment
- Developed across an extensive list of platforms: iOS, Android, Browser, TV, Roku, PS4, Xbox
- Outlined improvements to the dialog prompt for future engineers and added telemetry events to calculate how often users chose to continue watching their show

Backend Engineering Intern
HBO **June 2018—August 2018, Seattle, WA**

- Designed a geolocation based service to populate a "top 10" cable provider list local to your area for the HBO GO login page
- Deployed a PostgreSQL database to gather training data and compute the top cable providers for a given 30x30 square mile location
- Quickly ramped up on HBO's micro-service architecture and successfully deployed code to the production environment
- Gained experience using Node.js, along with writing unit and integration tests
- Worked closely with designers and product mangers to weigh monetary tradeoffs and propose future extensions to the project

Research Assistant
University of Washington Renewable Energy Analysis Lab **January 2018—June 2018, Seattle, WA**

- Predicted and forecast future power output for Vesta V-80 wind turbines in Vantage, Washington using python's numpy library
- Parsed roughly 10,000 V-80 turbine data entries to identify times of low resource usage and propose energy saving strategies for the Vantage site

Construction Worker
Land Expressions **June 2017—September 2017, Spokane, WA**

- Installed commercial drainage piping, sprinkler grids, and other landscape features
- Performed basic machine operations with excavators and loaders

PROJECTS

Flight Reservation System **June 2019**

- Developed a functional flight reservation system in Java and SQL that is able to create user accounts, book flights, add and remove funds, and search for itineraries based on user preferences
- Deployed a Microsoft Azure database to house user booking data and flight data from the US Department of Transportation
- Managed concurrent and multi-user cases through the use of SQL transactions
- Wrote extensive unit and integration tests both for concurrent and non-concurrent cases

Lightweight Unix-Based Operating System (xv6) **April 2019**

- Developed a functioning Unix-based operating system in C based on skeleton code from MIT's xv6 operating system
- Added common system calls and kernel interrupts such as fork, exec, open, read, write, etc…
- Added multi-process functionality to the operating system
- Used common locking techniques to ensure a one to one kernel to process interaction so as to avoid race conditions and deadlocks
- Implemented a crash safe disk boot to ensure no data is lost on system failure

Desktop iMessage Application **September 2018**

- Designed a simple desktop messaging application with JavaFX similar to Apple's iMessage app
- Implemented a nested dictionary ADT to map key words and common phrases for word suggestion in the application
- Implemented data mappings for use in spelling correction and autocompletion

Simple Email Spam Filter **June 2018**

- Implemented a machine learning classifier in Java to determine if an email is spam or not
- Analyzed a set of training data to calculate the "spam" threshold for an email
- Iterated on the application to account for edge cases which may have never appeared in the training data

EDUCATION

Bachelor of Science in Computer Science
University of Washington • Seattle, WA • Graduation Date: June 2020 • 3.61 GPA

RELEVANT COURSEWORK

CSE 331 - Software Design & Implementation
- Learned proper modular design, unit testing, and debugging of software systems in Java

CSE 333 - Systems Programming
- Gained substantial experience in C, C++ programming, memory allocation and cache management

CSE 332 - Data Structures and Parallelism
- Covered common sorting techniques and data structures such as dictionaries, balanced trees, hash tables, priority queues, and graphs

CSE 451 – Operating Systems
- Learned about process management, memory management, multi-processing systems, locking, and buffer based file writing

CAMPUS INVOLVEMENT

Engineers Without Borders
University of Washington • Active Member • September 2016—Present
- Working with a small community in Tortuga, Nicaragua (population: 675) to implement a water treatment system, along with a solar powered pump distribution system to draw water from a neighboring region
- Currently collecting and parsing solar panel power output data to determine peak resource use, and optimal panel placement

SKILLS

Java • JavaScript • **SQL** • C++ • **C** • Git • **Node.js** • Grunt • **Docker** • JIRA • **React** • Apache • **Jasmine** • Agile Framework • **Maven**