Robert L. Burris

Computer Science and Engineering Senior
at the University of Washington

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Education

2019–2023 **Bachelor's of Science**, *University of Washington*, *Computer Science, Cumulative GPA: 3.69/4.00*.
Academic Achievements: University of Washington Dean's List: Autumn 2019, Spring 2020 - Present
Relevant Coursework: Graduate Machine Learning, Distributed Systems, Data Center Systems, Operating Systems, Networks, Compilers, Computational Complexity, Intro to Digital Design, Intro to Data Management

Work Experience

June 2022 - September 2022 **Software Engineer Intern**, *Google*, Pittsburgh, Pennsylvania.
- Worked on Flex-SRE, a Google Cloud Technical Infrastructure team responsible for managing Borg/Kubernetes, Colossus, Spanner, BigTable, and other shared resource allocations.
- Expanded monitoring coverage from 50% to 100% by implementing a gRPC server in Go that executes sample workflows to perform liveliness checks on the command line tool used to manage resource allocations.
- Implemented a deterministic load generator in C and Go for compute resources (CPU, RAM, Disk) used to validate allocation metrics.

March 2022 - June 2022 **Software Engineer Intern**, *Intuit*, Mountain View, California.
- Added two new email notifications to the QuickBooks Live platform to help improve client experiences.
- Built email templates in HTML and used Camunda and Apache Spark+Flink+Kafka to define the logic necessary to send notifications to clients.

March 2022 - Present **Undergraduate Teaching Aide**, *Allen School of Computer Science and Engineering*, Seattle, Washington.
- Teaching Aide for Introduction to Compiler Construction (CSE 401).
- Co-led a weekly section with another TA, hosted weekly office hours, and helped students with the term-long project of building a Java compiler.

August 2020 - September 2021 **Undergraduate Researcher**, *Wang Lab for Computational Biology*, Seattle, Washington.
- Developed a supervised machine learning model in PyTorch that uses single-cell RNA sequencing data to accurately predict (96.1% test accuracy) the age classification of a kidney cell.

Technical Projects

Python + Docker **pydproc - Automated API Data Collection**, *pip install pydproc*.
- Designed and coauthored a Python3 package (pydproc) with over 700 downloads that simplifies repeated data collection from an API using Python and YAML.
- Implemented a validation script that checks required API fields and desired client data, a filter script that removes extraneous data from API calls, and a way for a client to build their own YAML config file via a command line interface.

Python + Electron.js **AudioBolt - Live Subtitling**, *Built at TreeHacks 2021*.
- Developed an Electron.js desktop app that uses DeepSpeech2 (state the of art speech recognition model) to provide live subtitling for any app playing audio
- Set up Google Cloud environment for receiving inferences and tweaked a simple Socket Server in Python to accept client audio via a TCP stream

Go + MongoDB + Electron.js **FaceNote - Facial Recognition App**, *Built at Dubhacks 2020*.
- Developed an Electron.js desktop app that uses facial recognition to identify users in a Zoom call.
- Implemented a MongoDB database interface for storing and retrieving identified faces through HTTP requests in Go.

Technical Skills

Languages C, C++, Java, Python, Go, SystemVerilog, JavaScript, TypeScript

Technologies PyTorch, SQL, Docker, React, Node.js, Express, Next.js, HTML/CSS, Git, Unix/Linux, LaTeX