Bowen Luo

Portfolio: plopor.github.io | Email: bowen.luo@gmail.com | Github: https://github.com/plopor

Languages: C#, C++, C, Python, Java, Javascript

Interests: Al/ML, Graphics, Networks, Cloud/Distributed Computing, Compilers, DBs

EXPERIENCE

Arista Networks | Software Engineer (C++, Python)

Sept 2022 - Dec 2022

- Individually developed network switch CLI commands to asynchronously query information on routes in the forwarding tables across VRF instances, **improving routing telemetry data**.
- Prototyped improvements to routing table adjacency trimming by consolidating optimizations done during next-hop creation and interface-down adjacency review.
- Built test framework features to detect tight loops in tasks of ASIC platform agents at runtime.

Oracle Netsuite | Software Developer (Java, JavaScript)

Jan 2022 - Apr 2022

- Planned architecture of and implemented objects/services for a new data storage (UMD) and manipulation pipeline; wiring (Guice), persisting, and exposing SQL entries to support Oracle Netsuite platform rewrite.
- Built frontend pages (React/Preact) along with necessary data pipeline services and endpoints, researching and implementing UMD record querying for request validation.

Oracle Netsuite | Software Developer (Java, SQL)

May 2021 - Aug 2021

- Individually wrote and upgraded endpoints to fetch and manipulate SQL data.
- Implemented scheduled SQL tasks and contributed to a web-based frontend (UIF, JS), delivering features for client requests.

Martello Technologies | Software Developer (C#)

Sept 2020 - Dec 2020

 Individually upgraded the backend codebase of a data consolidation platform (ELK Stack, Akka.NET), migrating between major versions of Elasticsearch and creating new data visualization options.

VirtaMove | Software Developer (C++)

Jan 2020 - Apr 2020

- Individually developed a feature detecting the memory-mapped compiled bitness for Windows binaries, **improving app migration success rates** across Windows OS of varying architectures.
- Individually developed a native file and registry rehosting service migrating between matching OS, working with kernel interfacing Windows API to guery services, registries, and binaries.

Amgine | Junior Developer (C#, Python)

May 2019 - Aug 2019

- Researched and prototyped improvements (GRU, ELMo word embedding, attention layers) to an NLP ML model (Keras, Tensorflow), **improving sentiment analysis of emails.**
- Wrote a custom JSON parser and an email tokenizer to facilitate training data transfer/generation.
- Generated C# classes (T4 text templates) for dynamic JSON parsing.

EDUCATION

University of Waterloo | Bachelor of Computer Science | Combinatorics and Optimization Minor
University of Chicago | Masters in Computer Science Candidate

May 2024 expected graduation

PERSONAL PROJECTS

Photorealistic Raytracer | C++

• Demonstrating supersampling anti-aliasing, mirror/glossy reflection and refraction, soft shadows, texture and bump mapping, and Phong illumination. Scene rendering specified with LUA.

Connect - Hack the North | Java, Android Studio

- Service to send/receive NDEF messages using NFC. Prototyped sending images and PDFs as URI.
 ML Models I Java, Python
 - Semi-supervised image classification model on MNIST using K-means and KNN for cluster labeling.
 - Perceptron-based neural networks demonstrating evolutionary and back-prop algorithms.