Daren Liang

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EXPERIENCE

- **Citi**   New York, NY
  Software Engineer AVP   June 2023 - Present
  Software Engineer Contract   May 2022 - May 2023
    - **Risk Analytics Products**: Quant Risk Libraries / Wholesale Loss Forecasting Platform
    - **Technologies**: NumPy, pandas, Dask, GraphBLAS, ClickHouse, MySQL

- **Oanda**   Toronto, ON
  Software Developer Intern   May 2020 - August 2021
    - **Backend trading systems**: C++ and Python microservices development
    - **Technologies**: Ansible, Protobuf, ZeroMQ, Prometheus/Grafana, QuickFIX, Finagle

EDUCATION

- **University of Toronto**   Toronto, ON
  Computer Science Specialist and Applied Statistics Minor   September 2018 – April 2023
    - **University of Toronto Scholar**
    - **2018-2020, 2021-2023 Dean's List Scholar**

INVOLVEMENTS

- **Imglabs.io**   Toronto, ON
  Co-Founder   April 2022 – Present
    - **Edge-capable image proxy service**: Proxy, cache, and transform images at the network edge
    - **Image processing in Wasm**: Sub-second image transformations using under 100MB memory
    - **Highly customizable**: Convert between 10+ image formats and apply any order of image transformations
    - **Serverless architecture**: Cost conscious and effortless scaling
    - **Currently in alpha**: Free to try out; pricing TBD
    - **Technologies**: Serverless computing, Rust, WebAssembly, Supabase, PostgreSQL, React, Next.js, Tailwind CSS

PROGRAMMING SKILLS

- **Proficient**: Python, Go, C, JavaScript/TypeScript, Java, SQL
- **Competent**: C++, Rust, Scala
- **Tests**: CodeSignal: 842/850

PERSONAL PROJECTS ⚙

- **Dsfs**: A highly-experimental filesystem in userspace using FUSE with an exotic backend
    - **Exotic backend**: Files, folders, and transactions are stored using Discord attachments
    - **Append-only log-structured filesystem**: Supports automatic snapshots and rollback
    - **Realtime synchronization**: Syncing files and folders between remote clients in realtime
    - **Performance optimizations**: A variety of techniques are used such as buffering and checksums to ensure there are no unnecessary uploads/downloads and the differences between local and remote states are minimal
    - **Cross-platform support**: Supports major OSes such as Windows, macOS, and Linux
    - **Additional information**: `https://www.darenliang.com/posts/fuseing-for-fun/`

- **Nikel API**: Free and open data API for the University of Toronto
- **MikuBot**: General purpose Discord bot serving more than 9,000 servers (discontinued)
- **Decentralized Text Chat Web App**: Peer to peer text chat using WebRTC
- **Quteman**: A simple Postman alternative written in C++ and Qt
- **Resauce**: A work-in-progress file rename utility written in C++ and Qt
- **Mal-api**: Python library for querying data from MyAnimeList