

# Daren Liang

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## EXPERIENCE

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- **Citi** New York, NY (remote)  
*Software Engineer Contract* *May 2022 - Present*
  - **Risk Management:** Quant risk libraries
  - **Technologies:** NumPy, pandas, Dask, 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

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- **University of Toronto** Toronto, ON  
*Computer Science Specialist and Applied Statistics Minor* *Sep. 2018 - Present*
  - **University of Toronto Scholar**
  - **2018-2020, 2021-2022 Dean's List Scholar**

## PROGRAMMING SKILLS

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

## PERSONAL PROJECTS 🌐

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- **Nikel API:** Free and open data API for the University of Toronto
  - **RESTful API:** Using the Gin web framework
  - **Selenium WebDriver and BeautifulSoup:** Web scraping and data parsing
  - **Caching:** Requests are cached and stored in a key-value database backed by BadgerDB
- **MikuBot:** General purpose Discord bot serving more than 9,000 servers (discontinued)
  - **Amazon DynamoDB:** Database for storing server data
  - **Docker:** Ready to deploy Docker image
- **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/>
- **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
- **Gomatheval:** Evaluates basic math expressions in Go using Shunting Yard and Reverse Polish
- **Mal-api:** Python library for querying data from MyAnimeList
- **Jikan-go:** Go wrapper for Jikan API

## INVOLVEMENTS 🌐

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- **UTM Robotics:** [utmrobotics.com](http://utmrobotics.com) (currently archived)
  - **Lead Web Developer:** Worked on website redesign built with Jekyll