

Work Experience

- Aug 2020–
Aug 2024 **Materialize**
Engineer. *rust, sql*
Designed and implemented features near the SQL layer including system architecture, wire protocol, correctness, transactions, authentication, ingress balancer. Designed and implemented changes for the SaaS cloud product.
- Dec 2015–
Aug 2020 **Cockroach Labs**
Staff Engineer. *go, sql*
Automated the finding of hundreds of bugs in CockroachDB using [SQLsmith](#) and other randomized testing. Designed and implemented features for CockroachDB including driver protocol, SQL functions and types, distributed CSV import, and Kerberos authentication. Maintainer of [lib/pq](#), a Go Postgres client driver.
- July 2015–
Nov 2015 **CoreOS**
Developer. *go, python, kubernetes, docker*
Features and maintenance for [Quay.io](#).
- Mar 2012–
July 2015 **Stack Overflow**
Developer. *go, c#, javascript, sql-server, angularjs*
Features and maintenance for Stack Overflow Careers. Internal applications for the SRE team. Primary author of [Bosun](#), a Go-based monitoring and alerting system.
- June 2011–
Mar 2012 **Seagate Technology**
Senior Engineer. *python, mysql*
Wrote and maintained various custom tools and web apps to address or discover internal issues and problems.
- 2000–2015 **US Geological Survey**
Consultant. *java, sql*
Worked with a scientist to implement algorithms in usable programs. Various implementations written in C++, Java, PHP, SQL.

Selected Software Development

[goread](#)

Open-source RSS reader in Go, on App Engine with AngularJS. Was profitable, with hundreds of paying users.

[sqlfum.pt](#)

SQL formatter with algorithmic line breaking.

[moggio](#)

Audio player in Go that can play various kinds of music (wav, mp3, flac, vorbis, nintendo sound files) from different sources (google drive, dropbox, soundcloud, bandcamp, shoutcast, local machine) and works the same on popular OSs (Linux, Mac, Windows).

[acre](#)

LSP client for the acme editor, written in Rust.

Education

- 2009 **M.S., Electrical Engineering**
Colorado State University. TA for EE451 (Digital System Design), EE571 (VLSI System Design).
- 2007 **B.S., Computer Engineering**
Colorado State University. Second place at E-days competition for our pipe/electronic organ. I conceived and led the project. I taught myself Verilog, programmed the FPGA, and wrote a paper on a new method for synthesizing pipe organs.
- 2007 **B.M., Piano Performance**
Colorado State University. Wendel Diebel award for musicianship. Also learned quite a bit of organ.