Jonathan Sumner Evans

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WORK EXPERIENCE

Software Engineer, Beeper — Automattic — Remote *April 2024 - Present*

- Reduced RAM usage for the Telegram to **Matrix** bridge by ~2TB (80%) by rewriting from Python to **Go**.
- Implemented the cryptographic key infrastructure necessary for message key backups and interactive device verification in mautrix-go by utilizing the standard Go **cryptography libraries.**
- Implemented media upload/download and interactive device verification in the Beeper client SDK written in **Go** which is being used in the next generation Beeper clients.

Software Engineer — Beeper (acquired by Automattic) — Remote *July 2021 - April 2024*

- Scaled our backend infrastructure from handling <1,000 users to >100,000 users by **sharding** traffic from high-volume bridges to a separate **Go** service called *Hungryserv* in a backwards-compatible, transparent manner. I created the initial proof of concept and then continued as a core member of the 3-member team that productionized the project over a four-month period.
- **Reverse-engineered** and implemented features for *Beeper Mini* (iMessage on Android) including media, tapbacks, typing indicators, read receipts, edits, unsends, link previews, and chat metadata changes.
- Measured message send **latency and reliability** by instrumenting bridge **metrics**. Built a Dockerized **Go** service to process those metrics and send them to BigQuery.
- **Reverse-engineered** the LinkedIn Messaging API and implemented a LinkedIn to Matrix bridge in **Python.**
- Designed a framework for importing users' chat history, and implemented it in the WhatsApp, Facebook, Instagram, and Telegram bridges.

Adjunct Professor — Colorado School of Mines — Golden, CO *Aug. 2018 - Dec. 2024*

- **Algorithms** (4×) — advanced data structures, graph algorithms, dynamic programming, NP-completeness
- **Programming Languages** (4×) — functional programming, parsers, type systems, formal semantics
- **Computer Organization** (1×) — RISC-V assembly, pipelining, processor design, memory hierarchy
- **Computer Architecture** (1×) — cache coherence, virtual memory, branch prediction, multiprocessors

Software Engineer — The Trade Desk — Denver, CO *June 2019 - July 2021*

Software Developer — Can/Am Technologies, Inc. — Lakewood, CO *Feb. 2013 - Aug. 2016*

- Built a Check 21 ICL (Image Cash Letter, used for electronic check deposits) file generator in **C#.**

EDUCATION

Colorado School of Mines — Golden, CO — B.S. + M.S. Computer Science *July 2016 - May 2019*

- Outstanding Graduating Senior for Computer Science
- Chair of Mines ACM, Service Chair of Tau Beta Pi, **Linux** Help Guru of Mines Linux Users Group (LUG)

TALKS AND PRESENTATIONS

Matrix Cryptographic Key Infrastructure — Matrix Conference *Sept. 2024*

- Provided an overview of how key sharing, key backup, device and user verification, and secret storage operate within Matrix to provide cryptographically secure messaging features.

Hungryserv: A Homeserver Optimized for Unfederated Use-Cases — Berlin Matrix Summit *Aug. 2022*

- Discussed a Matrix-compatible homeserver that Beeper uses to handle unfederated bridge traffic.

</> NOTABLE PROJECTS

Nix Home Manager (Maintainer) — github.com/nix-community/home-manager — MIT *April 2021 - Present*

Sublime Music (Author) — github.com/sublime-music/sublime-music — GPLv3 *Nov. 2018 - Dec. 2024*

- A native Subsonic music server client for Linux built using **GTK** and **Python.**

Last Updated: February 12, 2025