Bailey Wickham

View at baileywickham.com

Experience

08.2023 – Present

Console, Founding Engineer

Early stage AI startup for IT departments funded by Thrive Capital

- Working on everything from core AI features to the platform. Scaled platform to 10K+ users. Worked with customers to close individual deals.
- Designed novel AI interaction patterns, including "Playbooks" allowing users to reference tools and resources inline. Developed main agentic workflows for the IT use case.
- Designed and developed core data ingest platform, scaled to 1M+ records per ingest across multiple data providers and customers.
- Designed and implemented RAG search pipeline including researching and implementing the state of the art.

12.2022 – 9.2023
10 months

Metaculus, Software Engineer

Early stage startup that built a forecasting platform

- Implemented scoring algorithm. Built out core features of the platform, including Search and Achievement features that drove user growth.
- Designed and developed public API client for interacting with Metaculus API. Built out API endpoints for new features.

01.2021 – 07.2022
1 year, 6 months

Amazon, IPX Team

Amazon team responsible for KDP Publishing

- Worked on internal lisp language, made contributions to the runtime and parser. Developed visulaltion tools for tree data structures. Developed DSL for querying book location on Amazon store.
- Worked on team of three to decide infrastructure path forward for team. Led major infrastructure and design choices for medium scale component. Led initial planning and development of said component, including CI/CD, designing APIs, integrating with other services through custom DSL.

Summer 2020 – Winter 2021

Frost Researcher (Poster)

Frost Research, Cal Poly

- Participated in undergraduate research in Pure Mathematics under Dr. Eric Brussel. We studied a moduli space of embeddings of complex planes into the quaternions. We then generalized our approach over the generalized quaternions, classifying the embeddings of commutative subalgebras, related affine varieties, and conjugacy classes. We also studied H from a category theoretic perspective. Paper in progress.

09.2018 – 12.2020
2 years, 3 months

Cal Poly CubeSat Lab

PolySat, Cal Poly

- Mission Lead of ExoCube II (Spring 2019-Summer 2020), a 3U small satellite as part of NASA's ELaNa XXprogram. Led team of ~20 through build, testing, and predelivery phase of the spacecraft. Worked with NASA Goddard, Virgin Orbit, TriSept to organize delivery of spacecraft. Mission funded by NASA, NSF.
- ExoCube II successfully launched on Virgin Orbit Q1 of 2021. Worked with current mission lead during initial acquisition and operations.
- Led development and deployment of CPCL infrastructure to AWS (~5 machines). Wrote Cloudformation templates, ansible scripts to manage deployment. Deployment met Cal Poly IT security standards.
- Developed Embedded Flight Software for CPCL including commits to buildroot, IPC library, beacon and XDR parser.

Education

Contact

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PGP Keys

Publications

I. Gallagher, A. Hasse, B. Wickham, E. Brussel. Poster at MAA Golden Session *Spheres of Planes in the Generalized Quaternions*

Personal

Personal Site: baileywickham.com
Github: baileywickham
Running, Surfing, Reading

09.2018 – 06.2022

California Polytechnic, SLO

BS in Mathematics, BS in Computer Science

- BS in Mathematics (Pure focus), BS in Computer Science, 3.56 GPA
- Minor in Chinese (two years of language courses)
- Graduate courses in Field Theory, Point-Set Topology, Algebraic Topology, Programming Languages

Received Frost funding Spring, 2022 to research Version Space Algebras under Dr. Robert Easton in the Mathematics department.

Worked with Masters student under Dr. Theresa Migler to characterize power networks from a graph theoretic approach. Studied graph networks and built a framework for ingesting data.

Attended Simple Group, a research seminar with a focus on algebraic topics.

Attended programming languages reading group under Dr. John Clements and Dr. Aaron Keen. Discussed current topics in programming languages and type theory.

Side Projects

fuzzer `Go`

A markov chain based fuzzer written in Go which generates new data based on an input corpus to test applications. Supports multiple markov chains and test corpuses in parallel.

dns `Rust`

A small dns client written in Rust. Written to experiment with Rust and DNS standards.

PrettyCities `Python/Tensorflow/Keras`

Use Keras and Google maps API to try to generate predictions about how pretty a city is.

More on Github