

# garrett mills

software engineer, computer scientist, and speaker

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**objective** Self-motivated computer scientist & software engineer with strong technical and leadership skills who always exceeds project goals and meets deadlines.

## education

### Graduate Student - Computer Science

University of Kansas · (current)

Focus on Programming Languages & Formal Methods

School of Engineering Dean's First-Year Doctoral Fellow

### Bachelor of Science - Computer Science

University of Kansas · 4.00 GPA · 2018 - 2022

Minor in Business, University Honors Program, Highest Distinction

**Relevant coursework:** Programming III; Calculus III; Discrete Structures; Operating Systems; Compiler Construction; Applied Statistics; Theory of Computing; Programming Languages

**Awards:** Best Implementation of Google Cloud (HackKU 2019)

- awarded for Firebase integration my team's submission, parking management app WaitNoMore

Kenneth C. Deemer Engineering Award (Spring 2021)

- awarded to juniors with the highest GPA after 5 semesters

Runner-Up - Education Track (HackKU 2022)

- awarded for my team's submission, an interactive math worktable

## work

### Graduate Research Assistant · August 2022 - Present

University of Kansas · Lawrence, KS

Contribute to FAA ASSURE project with emphasis on formal methods and static analysis of UAS architectures.

### Software Consultant · November 2022 - Present

GLM Development, LLC · glmdev.tech

glmdev-\$ is a full-service software development consultancy run by Garrett Mills specializing in back-end/API development, deployment/CI architecture, and networked systems.

### Software Developer · May 2019 - Present

AllofE Solutions · Lawrence, KS

Full-stack development in TypeScript/Angular/PHP; focus on back-end architecture & systems engineering. Designed & implemented extensive AWS integrations for exam proctoring at scale w/ TensorFlow; lead transition of production systems to Kubernetes; lead transition from legacy framework to Laravel; modernized internal development toolchain w/ Ansible & LXC.

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## work **Freelance Systems Engineer** · March 2020 - February 2021

TeraCrunch, LLC · Kansas City, KS

Development & support for applications written with Node.js/MongoDB and PostgreSQL. Implemented multi-factor auth for several client applications and provided infrastructure maintenance.

## Lab System Technician

 · August 2018 - May 2019

Center for Research Methods & Data Analysis · Univ. of Kansas

Managed & maintained 10+ lab machines in Linux environment; transitioned 20+ HPC batch submission scripts to the SLURM scheduler and provided tools and documentation for research staff; held colloquium exploring use of Kubernetes for scientific computing w/ OpenMPI.

## Assembly Technician

 · August 2018 - May 2019

KRS Corporation · Louisburg, KS

Designed & prototyped breakout circuit and firmware to automate flashing and testing of product logic boards. These improvements cut the time required to prepare each board in half.

## talks **Decidability & the Halting Problem** · November 2021

First-Year Honors Seminar - Algorithmic Thinking

Lecture on real-world examples of decision problems, decidability, the history of Alan Turing, the Halting Problem, and its implications on algorithm design.

## That Container Thing

 · November 2019

Center for Research Methods & Data Analysis Colloquium

Presented and demoed a framework for parallel computing with OpenMPI using Kubernetes in the cloud as an alternative to traditional HPC.

## projects **Extollo** · [garrettmills.dev/go/extollo](https://garrettmills.dev/go/extollo)

Libre, extensible, TypeScript-based application framework

Extollo is my second generation general application framework built on Node.js and TypeScript. Written largely from scratch, it features a container-based architecture with an ORM, routing stack, HTTP server, CLI stack, job queue, filesystem abstraction, and authentication framework.

## Starship CoreID

 · [garrettmills.dev/go/coreid](https://garrettmills.dev/go/coreid)

Self-hosted, centralized single-sign-on

CoreID is a unified auth server that supports LDAP, OAuth2, OpenID Connect, and SAML 2.0. It is designed to provide unified SSO across all my self-hosted apps and features identity and access management and multi-factor