

# Daniel Mikhail

## Software Engineer

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## Experience

### Verily Life Sciences (Alphabet), Software Engineer I (Boston, MA)

July 2022 - Present

Led full-stack development of two core healthcare platform components with feature flag-controlled deployments in a FHIR/GCP ecosystem. Technologies include: Go, React/TypeScript, GCP, FHIR, gRPC

- **Participant System:** Built a scalable internal service enabling Verily's developers to interact with simplified participant interface
  - Led refactoring of a core data model and system, improving maintainability through service modularization and third-party integration abstraction
  - Reduced testing cycle time by 75% through decoupling frontend/backend test suites in Consent System
  - Authored comprehensive developer guides and contract tests establishing best practices for service integration
- **Provider Console:** Led design and development of a modular frontend dashboard through iterative feedback loops with UX and Product teams
  - Established frontend architecture patterns by implementing core React/TypeScript components, creating a flagship MFE that became standard reference across 4+ teams
  - Broke down card implementation into modular Backend-for-Frontend (BFF) architecture enabling parallel development across junior engineers, reducing MVP delivery time by 50%
  - Built reusable UI components following UX specifications, maintaining a11y compliance standards, ensuring aligned quality expectations with Project Management

### Verizon Media Group (Yahoo!), Software Production Engineer I (Champaign, IL)

August 2018 - March 2021

Served as the production point of contact for data pipelines and tools built on the Hadoop Ecosystem. Technologies include: Python, Hadoop Ecosystem (Pig, Oozie, Spark), AWS, RedHat clusters

- Developed a full-stack monitoring tool for multiple Lambda architecture-based streaming pipelines, providing real-time visibility into pipeline health
- Escalate urgent feature requests across the pipeline, like new a security requirement (COPPA, GDPR, etc.), that was deployed ahead of schedule
- Formed a high level intuition of the pipeline to catch potential SLA misses early, and pass on tribal knowledge to newer Production Engineers
- Refined many operational skills and concepts: Key and group management, replication, load balancing, networking, CI/CD, and Linux Bash scripting

## Projects

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Details of everything listed below can be found at [mikhaidn.github.io/Plokmin](https://mikhaidn.github.io/Plokmin)

### Custom Elgato Stream Deck Controller

Developed custom Python HID Controller for Stream Deck hardware with cross-platform (MacOS, Windows) audio controls

### Open Source Research

Increased the documented search space of two integer sequences ([A100570](#) and [A241922](#)) on the OEIS by 6 orders of magnitude by taking advantage of bitmapping, multithreading, and other Python/Math gimmicks

### Down Payment Calculator

A bare-bones static webpage to estimate monthly payments based off variable home and loan parameters

### Subject Primers

Original content created, based on frequently asked questions received over the years

- **The Unix Shell** - A simplified list of goals for learning the Unix Shell
- **Macarons** - A high level guide to making French Macarons
- **Competitive Smash Bros.** - Documented esports narratives of 'Smash Summit 11' for newcomers
- **STEM College Prep** - A collection of pre-college STEM resources

## Skills

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- **Languages:** Go, Python, TypeScript/React, Java, MATLAB, R
- **Infrastructure:** Docker/Kubernetes, GCP, AWS, CI/CD
- **Development:** API Design, Distributed Systems, BDD Testing
- **Domains:** Data Cleaning, Computer Graphics, Scientific Visualization

## Education

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**Masters of Computer Science**, University of Illinois at Urbana-Champaign

May 2020 - December 2024

**BSc, Computer Science**, Rose-Hulman Institute of Technology I (Terre Haute, IN)

August 2014 - May 2018