Daniel Mikhail

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mikhaidn.github.io/Plokmin

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Experience

2022 - Present

Software Engineer at Verily Life Sciences (Alphabet) *(Boston, MA)*

- **Participant System**:
  - 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 establishing best practices for service integration
- **Provider Console**:
  - Established frontend architecture patterns by implementing first React/TypeScript modules, creating documentation that became standard reference for 4+ teams
  - Designed and implemented modular Backend-for-Frontend (BFF) architecture enabling parallel development across frontend teams
  - Built reusable UI components following UX specifications, maintaining a11y compliance standards, ensuring aligned quality expectations with Project Management

Technologies: Go, React/TypeScript, GCP, FHIR, Protocol Buffers, gRPC

2018 - 2021

Software Production Engineer at Yahoo! *(Champaign, IL)*

Served as the production point of contact for components of Yahoo!'s DSP advertisement pipeline and tools built primarily on the Hadoop Ecosystem or Amazon Web Service.

- Communicate blockers in-between developer teams, like new a security requirement (COPPA, GDPR, etc.) or data schema change 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
- Established a real-time monitoring system using Lambda architecture, providing critical visibility into pipeline health and performance metrics

Technologies: Python, Hadoop Ecosystem (Pig, Oozie, Spark), AWS, RedHat clusters

Projects

Details of everything listed below can be found at 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

Knowledge Dumps

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

- **Macarons** - A high level guide to making French Macarons
- **The Unix Shell** - A simplified list of goals for learning the Unix Shell
- **STEM College Prep** - A collection of pre-college STEM resources

Skills

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

Education

2020 - 2024 **Masters of Computer Science**; University of Illinois at Urbana-Champaign

2014 - 2018 **BSc, Computer Science**; Rose-Hulman Institute of Technology *(Terre Haute, IN)*