Ibrahim Ahmed

360-616-1900 | ibrahim.a.0512@gmail.com | i5m.dev | ~ibrahim | ayyybe

Education

Western Washington University — Bellingham, WA
Bachelor of Science in Computer Science — *Sep. 2020 – Jun. 2023*

Experience

Meta (Facebook) — Feb. 2024 – Present
Software Engineer – Delos Platform — *Bellevue, WA*

- Building **distributed storage & coordination** systems for core infrastructure services powering the Meta control plane
- Leading efficiency efforts to slash hardware footprint across the Delos fleet by actualizing **workload multitenancy**

Walmart Global Tech — Aug. 2023 – Feb. 2024
Software Engineer II – Health & Wellness ProdOps — *Bentonville, AR*

- Supported **75+ clinics** across the nation to provide affordable and convenient health/dental care
- Developed an **AI assistant** to help care providers with troubleshooting, reduce incident inflow, and **enable growth**
- **Tech:** Kubernetes, Docker, Splunk, AWS, Langchain, Azure AI, GCP, Twilio, Clover, SQL, Next.js, React

Meta (Facebook) — Jun. 2022 – Sep. 2022
Software Engineer Intern – Zeus (Zookeeper) — *Bellevue, WA*

- Launching deployment infra for GCP Distributed Cloud to efficiently scale 1000s of high security/public sector customers
- Assisted in ongoing migration of distributed metadata storage infrastructure for **2,000+ production services**
- Increased Zelos ensemble scalability **over 2,500x** by building the "Observer" feature as a read-only data fanout layer to handle **300,000+ concurrent connections** without affecting write performance (up from 120)
- Paved way for migration of service discovery and config distribution services used by **15,000+ engineers** onto Zelos
- Reduced incident resolution time **by 26%** and enhanced developer workflow for **200+ engineers** within the Delos platform ecosystem by scoping out & building the de facto tool to query and debug RocksDB stores
- Used **C++, Python, RocksDB, Thrift RPC** to build a fault-tolerant service for streaming data changes

Projects

Wingman - AI Productivity Assistant | *Rust, C++, Solid.js, Tauri, Whisper, GPT-4*

- Building a streamlined cross-platform desktop overlay using **Rust + Tauri** for general-purpose use of next-gen AI models
- Designed a modular framework for composing a variety of inputs/outputs to create a seamless multi-modal experience
- Leveraged **Rust, cpal, dasp, whisper.cpp** to reduce audio transcription pipeline latency by **up to 7.5 seconds**

Unreal Explorer | *C#, C++, Protobuf, TypeScript, Node.js, Electron, React*

- Developed a reverse engineering/analysis toolkit for Unreal Engine games to help modding, data mining, and speedrun tool development communities for **1,000+ production games** built on Unreal Engine 4/5
- Built a **reflection system** in C# to dynamically access external game memory and interpret **C++** engine structs
- Made hidden game logic accessible by writing a **disassembler** for proprietary compiled "Blueprint" game scripts
- Leveraged **Protobuf** to create a lightweight messaging system between the **Electron/React** UI and **C#** backend

AI/ML captcha solver (Arkose Labs Bounty) | *Python, Tensorflow, OpenCV*

- Participated in a bounty program to bypass the "FunCaptcha" anti-fraud solution using machine learning
- **Reverse engineered** obfuscated client JavaScript source and HTTP requests to automate solves & training set retrieval
- Trained a **neural network** using **Keras and Tensorflow** to solve new rotation captchas with **100% accuracy**

Wearable shock alarm clock | *C, Embedded Systems, IoT, Bluetooth Low Energy*

- Designed a prototype circuit for a novelty alarm clock armband to **wake you up via 40kV electric shock**
- Created a robust **build system** using Make and GNU Arm Embedded Toolchain to improve developer experience
- Wrote feature-rich, power efficient firmware, extending battery life to **last over 2 months** on a single charge

Realtime video codec + Screen-sharing app | *C++, Win32 API, Computer Networking*

- Built a rudimentary screen-sharing app in **under 2 weeks** for my high school APCSA final project
- Designed a **realtime lossless compression algorithm** optimized for desktop video (static areas and colors)

Skills

Languages: Rust, C++, Python, C, x86/x64 assembly, Java, C#, TypeScript, JavaScript, HTML, CSS, SQL
Tech: AWS, GCP, Azure, Kubernetes, Docker, Splunk, SciPy, OpenCV, Git, Mercurial, Linux, SSH, DevOps, CI/CD
Concepts: Distributed Systems, Infrastructure, Compilers, Backend Development, Machine Learning, Reverse Engineering