**EDUCATION**

University of Maryland, College Park Bachelor of Science in Computer Engineering

**WORK EXPERIENCE**

**Volute -** *Senior Full Stack Engineer* **January 2022 - Present**

* Led the development of user experiences (Text, A/V, Media) to facilitate communications within discussion forums.
* Coordinated across **3** teams, both internal and external, to build and integrate new subsystems concurrently
* Identified user friction and inquiries by parsing questions within posts in the forums using an LLM (GPT-3.5) and reporting them, to indirectly increase user interactions by **20%**.
* Ameliorated user engagement by leveraging Large Language Models with the RAG strategy to provide the ideal experience for searching through forums.
* Sped up GitHub Actions build to identify issues quicker in the development process, from 12 min average to a **6 min** average
* Revealed business continuity gaps by developing Analytics widgets, using React, Recharts, Tailwind, NodeJs, and Azure Postgres Flexible Server.
* Improved system stability by implementing end-to-end type-safe wrappers for emitting and handling system events by Azure Event Grid, improving development and testing efforts by **30%**
* Led efforts to migrate to Typescript, and change libraries and common practices to improve maintainability, over gradual refactorings, eliminating severe bug reports from 3 per quarter to **0**.
* Developed CLI tools and scripts, in Rust and Nodejs, to automate developer tasks, improving velocity by **25%**
* Maintained an AKS (Kubernetes cluster) across **4-5** node pools hosted on Azure, resolving region migrations, investigating memory leaks, debugging Kubernetes deployments, etc…

**Volute -** *Front End Engineer***November 2021 - January 2022**

* Optimized application performance, improving the Lighthouse score from **17 to 82**, achieving a speed index of **1.9**, by dynamically compressing images and applying windowing techniques to large lists
* Increased development velocity by migrating Create React App v4 setup to Next.js 13, resulting in a **6x** reduction in build times
* Implemented an audio/video meeting feature, with webRTC, to facilitate user collaborations, used over 10,000 times

**Project New Social LLC -** *Full Stack Engineer / Tech Lead* **February 2020 - November 2021**

* Designed and led the development of a social media Progressive Web App to cheaply support Mobile and Desktop devices from one code base using Next.js, Node, Prisma, Postgres, and GraphQL
* Created and maintained a deployment strategy to serve our **1000+** of concurrent users for under **10 USD** a month, using Docker containers run on a VPS with Docker Swarm
* Collaborated closely with designers to create reusable and responsive UI components using CSS, Typescript, React.js
* Managed a typescript monorepo, using Turberepo, to reduce deployment and developer onboarding times by **30%**

**Projects**

[**maccel**](https://github.com/Gnarus-G/maccel) **-** *Linux Mouse Driver Engineer* **January 2024 - Present**

* Created an open-source mouse pointer acceleration driver for Linux, using a kernel module and a CLI Terminal UI for managing user settings, earning **40+** github stars
* Leveraged simple geometric algebra, implemented in C with fixed point notation, to run the acceleration fastly and consistently
* Implemented the core driver as an input handler, being the **first** mouse acceleration driver for Linux that supports all mice
* Managed onboarding and progress of **2** developers, maintaining expansive documentation to facilitate the process
* Guaranteed input lag within the range of **20** microseconds and **50** microseconds on average, measuring the time an input event takes to reach user-space, and analyzing stats with Python, pandas and matplotlib

[**rested**](https://github.com/Gnarus-G/rested) **-** *Compiler Engineer* **April 2023 - April 2024**

* Developed an open-source domain-specific language (DSL) and interpreter written in Rust for easily defining and executing HTTP requests, providing a streamlined alternative to tools like Postman and curl for API testing, with **5000+** downloads
* Implemented a comprehensive command-line interface (CLI) with functionalities including running scripts, formatting code, creating snapshots, and managing environment variables, enhancing developer productivity and workflow efficiency
* Published as a Rust crate on crates.io and as an NPM package, facilitating cross-platform accessibility
* Designed and incorporated features such as global constants, variable bindings, customizable request headers and bodies, file reading capabilities, and dynamic environment variable management within scripts

**Projects**

Github Actions, Astro, AWS, Azure, C, Cypher, Cypress, Docker, Generative AI, Git, Go, Graphql, Helm, Javascript, Jest, Kubernetes, Libraries, Linux, llama2, LSP, Lua, MongoDB, Neo4j, Next.js, Nginx, Node.js, Ollama, OpenAI, Playwright, Portainer, PostgreSQL, Prometheus, Python, React, Redis, REST, Rust, shadcn/ui, SDK, Shell, SQLite, Svelte, Tailwind, Tauri, Testing, Typescript, WebRTC, WebSocket, 100ms SDK