Ghislain Deffo

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Empiricist software development professional with expertise in designing and maintaining full-stack systems, aiming to deliver high-quality software solutions and contribute to a culture of innovation and efficiency. Measurable contributor to Open Source tooling with over 10K downloads, and 50+ GitHub stars.

Work Experience

Full-stack Engineer

Volute   Jan 2022 – Present

- **Led the development** of user experiences (Text, A/V, Media) to facilitate communications within discussion forums.
- Coordinated across 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 detect and address 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**, eliminating severe bug reports from 1 per quarter to 0.
- Developed CLI tools and scripts, in Rust or Nodejs, to automate developer tasks, improving velocity by 25%
- Maintained an **AKS** (Kubernetes cluster) hosted on **Azure**, resolving region migrations, investigating memory leaks, debugging Kubernetes deployments, etc…

Languages: *Typescript / Node.js / Javascript, Cypher, Python, Go, Rust*
Technologies: *Docker, Github Actions, PostgreSQL, Neo4j, MongoDB, Kubernetes, Helm, Prometheus, Redis, Nginx, React, Azure, AWS, Next.js, Jest, Tailwind, Git, Linux, Playwright, Cypress, Generative AI, WebRTC, 100ms SDK, OpenAI*

Front-end Engineer

Volute   Nov 2021 – Jan 2022

- Optimized application performance, **improving the Lighthouse score** from 17 to 82, achieving a speed index of 1.9
- Increased development velocity by moving from Create React App (CRA) 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, thereby increasing user engagement.

Full-stack Engineer

Project New Social LLC   Feb 2020 – Nov 2021

Small startup/team where I was a junior but my responsibility were like one of a Tech lead:

- **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 initial thousands of concurrent users for under 10 USD a month, using **Docker** containers run on a VPS with Docker Swarm
- Crafted reusable and **responsive UI** components using CSS, Typescript, React.js, and @material-ui to maximize on a reliable user experience
- Managed a typescript **monorepo**, using Turberepo, to reduce deployment and developer onboarding times by 30%

Languages: *Typescript / Node.js / Javascript, Rust*
Technologies: *Docker, Github Actions, PostgreSQL, Prometheus, Portainer, Redis, Nginx, React, Next.js, Jest, Tailwind, Graphql, Git, React Testing Libraries*

Core Java Instructor

CollaboraIT Inc   Jul. 2020 – Oct. 2020

- Enabled the senior instructor in training cohorts of Java developers monthly, teaching core concepts and design patterns, increasing the number of cohorts to pass through by 50%
- Taught advanced Object and Component design concepts such as **threading**, **polymorphism**, interface design, and **SOLID** principles.
- Designed a curriculum, in tandem with other instructors to rapidly upskill junior developers to be ready for professional projects in just 8 weeks.

PROJECTS

Linux Mouse Driver Engineer (Open Source)

maccel   Jan 2024 – Present

Accessible pointer acceleration **driver** for **Linux** with a simple Terminal UI.

Tech Stack: *C, Rust, Astro, Typescript, Python, Shell*

Language Designer / Compiler Engineer (Open Source)

rested   Apr 2023 – Apr 2024

Language/**Interpreter** for easily defining and running requests to an HTTP server with **language server integrations**.

Tech Stack: *Rust, REST, Lua, LSP*

Desktop App Developer (Open Source)

mynd   Mar 2024 – Jul 2024

A todo app, in the terminal, in a GUI, or in your editor. Simple and frictionless.

Tech Stack: *Rust, Tauri, Svelte, Typescript*

Full-stack Developer (Open Source)

looc.live   Dec 2022 – May 2024

An **audio/video** communication web-app, for screen-sharing with a peer.

Tech Stack: *webRTC, Svelte, Tailwind, Typescript, Node.js, WebSocket*

CLI App Developer (Open Source)

sciare   Mar 2024 – May 2024

CLI tool to manage documents, allowing for semantic searching, and prompting using the **RAG** strategy.

Tech Stack: *Rust, Ollama, Generative AI, SQLite, llama2*

Education

Montgomery College

Associates: General Studies, STEM   2018 – 2020