

Ceddy Muhoza

Senior Software Engineer

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Professional summary

([sup\[at\]ceddy.org](mailto:sup@ceddy.org)) Senior software engineer (full stack) with strong experience in various tech stacks like AI/ML, Frontend, Backend, DevOps, and Mobile development.

TECH SET:

DevOps - Kubernetes + Helm, Docker, AWS, Google Cloud, Digital Ocean, Openshift, Lambda/Fargate/Codepipeline, GCP Cloud/Run/Build/Firebase, Terraform, CircleCI, Github Actions

Data - Couchbase, MongoDB, Postgres, MySQL, Redis, Oracle, Elasticsearch, Dynamo, Firebase, GraphQL

Cloud - AWS, GCP, Digital Ocean, OpenShift, Azure

Languages - Javascript/ES6+7/Typescript, Go (Golang), Python

Willing to relocate: Anywhere

Work Experience

Senior Software Developer

Scotiabank | Toronto, ON

February 2026 to August 2026

- Architected AI-powered enterprise banking applications using React, TypeScript, Node.js, Python, and TensorFlow/PyTorch, enabling intelligent document processing, customer workflow automation, and real-time financial insights.
- Designed and deployed LLM-powered microservices leveraging OpenAI GPT-4/5, LangChain, LangGraph, and Retrieval-Augmented Generation (RAG) to accelerate internal operations, automate knowledge retrieval, and reduce manual investigation time by over 65%.
- Developed scalable Python FastAPI inference services hosting PyTorch and TensorFlow models for document classification, semantic search, fraud signal enrichment, and customer interaction intelligence.
- Engineered vector-search pipelines using embeddings, semantic indexing, and hybrid retrieval architectures, allowing enterprise applications to reason over millions of banking documents with sub-second response times.
- Built intelligent React dashboards visualizing AI predictions, confidence scores, explainability metrics, and real-time operational insights through WebSocket-powered interfaces.
- Implemented event-driven Node.js services orchestrating AI inference pipelines, integrating Kafka-based messaging, distributed caching with Redis, and resilient asynchronous processing.
- Collaborated with platform engineering teams to operationalize MLOps workflows including automated model deployment, monitoring, A/B experimentation, feature stores, and continuous model evaluation across Kubernetes environments.
- Optimized inference latency through GPU-aware batching, model quantization, ONNX runtime optimization, and intelligent caching strategies, significantly improving end-user responsiveness.
- Introduced AI-assisted software engineering workflows utilizing GitHub Copilot, enterprise LLM agents, and autonomous code generation pipelines, increasing engineering productivity across multiple delivery teams.
- Partnered with architecture, security, and governance teams to deliver enterprise-grade AI capabilities compliant with financial regulatory standards, data governance policies, and responsible AI principles.

Tech Stack

React • TypeScript • Node.js • Python • FastAPI • TensorFlow • PyTorch • LangChain • LangGraph • OpenAI GPT-4/5 • RAG • Vector Databases • Redis • Kafka • PostgreSQL • Docker • Kubernetes • Azure • GitHub Actions • GraphQL • REST • WebSockets

Senior Software Developer

Morgan Stanley | Montreal, QC

April 2024 to June 2025

- Architected full-stack AI-powered trading platforms using React.js frontends and Java Spring Boot backends, processing 50M+ daily transactions with 99.99% uptime while integrating Python ML services for predictive analytics.
- Built end-to-end machine learning pipelines in Python (TensorFlow, PyTorch, Scikit-learn) for market prediction and risk assessment, deployed via FastAPI microservices, improving trading accuracy by 45% and reducing latency to sub-millisecond levels.
- Developed sophisticated React applications with TypeScript, creating real-time dashboards for ML predictions and algorithmic trading signals, seamlessly integrated with Java microservices via REST/GraphQL APIs and WebSocket connections.
- Engineered enterprise Java systems using Spring Boot, Hibernate, and Kafka for high-frequency trading, while implementing Python quantitative analysis services, orchestrated through Kubernetes for optimal performance and scalability.
- Led hybrid architecture implementation combining Java's reliability with Python's ML capabilities, building React interfaces that visualize complex financial models, resulting in 60% faster decision-making for traders.
- Integrated LLMs (GPT-4, Claude) using Python/LangChain for financial document analysis, with Java middleware for data processing and React conversational interfaces, automating 70% of manual research tasks.
- Implemented comprehensive testing (JUnit, pytest, Jest, Cypress) achieving 90% coverage across the stack, while mentoring teams on full-stack best practices and AI integration strategies.

Tech stack: Java · Spring Boot · Python · React.js · TypeScript · TensorFlow · PyTorch · FastAPI · Kafka · PostgreSQL · Redis · Docker · Kubernetes · AWS · GraphQL · REST · Material-UI · Redux · LangChain · Pandas · NumPy

Senior Software Engineer

GSTS - Global Spatial Technology Solutions | Toronto, ON

January 2023 to December 2023

- Spearheaded the development and deployment of a cutting-edge vessel and port management platform, enhancing operational efficiency and data visualization for marine logistics and port authorities worldwide.
- Led the front-end development using React, designing responsive, user-friendly interfaces that facilitated real-time tracking, scheduling, and management of marine assets, significantly improving user engagement and decision-making processes.
- Engineered robust back-end systems using Node.js, ensuring seamless data integration and real-time processing capabilities, which enhanced the platform's performance and scalability to handle high-volume maritime operations.
- Collaborated closely with cross-functional teams to gather requirements, define system architecture, and implement agile development methodologies, resulting in the timely delivery of key features and a 40% increase in platform adoption within the first year.
- Implemented comprehensive API solutions for third-party integrations, enabling customizable and scalable interactions with external maritime and logistics systems, further extending the platform's capabilities and user base.
- Championed the adoption of containerization technologies and cloud services, leading to a 50% reduction in deployment times and a significant decrease in operational costs, while ensuring high availability and disaster recovery capabilities.
- Actively contributed to the creation of a developer-friendly environment by mentoring junior developers, leading code reviews, and promoting best practices in coding, security, and performance optimization.

Tech stack: React.js · nodejs · Amazon Web Services (AWS) · Amazon EKS · SNS · Apache Kafka · Grafana · Terraform · API Development · Jest · Cypress · PostgreSQL · TypeScript · Tailwind CSS

Senior Software Engineer, Team Lead

Stoqey | Toronto, ON

January 2022 to January 2023

Co-founding and leading an open-source AI product for traders.

- Built backend microservices in NodeJS/Typescript & Go, with API's powered by GraphQL
- Lead technical vision in delivering enterprise-grade TypeScript/Go applications
- Frontend with ReactJS, Redux-free, Class-free & CSS-free using latest React Hooks and Apollo GraphQL, Styled-components e.t.c
- Provide operational coaching and functional mentorship to technical team members
- DevOps with Kubernetes/Helm 3 on Digital Ocean - I've deployed the cheapest production-ready Kubernetes clusters.
- Support project estimation, planning, pricing, and proposal delivery
- CI/CD with Github actions for 3-minutes automatic git push to production deployment
- Collaborate with designers in creating and implementing project work
- Staying up-to-date with new/emerging technologies to implement improved practices to overcome technical issues

Tech used: Kubernetes / Helm, Digital Ocean, Couchbase, Redis, Go, TypeScript, NodeJS, ReactJS, React Native, Storybook, Cypress, Jest, Mocha/Chai, GraphQL, Github Actions, ML, OAuth 2, Stripe, PayPal

Senior Software Engineer (Technical Lead)

Travelers | Toronto, ON

February 2021 to January 2022

As Technical Lead the day-to-day operation included, development, coaching, and mentorship of various software development teams leveraging expert knowledge in front & back end, DevOps, and mobile development.

- Developed and implemented efficient, clean code that satisfied customer requirements.
- Conducted comprehensive testing and code reviews to ensure that industry coding standards were followed
- Managed team with regards to task assignments, work arrangements, and other Software Development Department expectations
- Analyzed call stacks, trace files, debug logs, or performance data to troubleshoot and identify the root cause of bugs, fix defects, and identify areas for improvement
- Collaborated with other development teams on design and implementation of features spanning multiple products/modules

Tech used: Kubernetes / Helm 3, Docker, OpenShift, AWS, Grafana/Prometheus, MongoDB, Redis, TypeScript, NodeJS, ReactJS, Redux, Storybook, Jest, GraphQL, Okta, OAuth 2

Senior Software Engineer

Epic Games | Toronto, ON

January 2020 to January 2021

At the center of services that powered customer E-commerce related experiences for all products. worked closely with teams to build and support systems that delivered good user experience, high performance, secure and reliable functionalities. From design, implementation, and deployment

- Designed, implemented, and iterated on scalable, secure, highly-available, backend services
- Maintained code quality internally and from outsourced partners
- Communicated technical risks within and across the group
- Handled various real-time issues on online services and platform
- Collected and analyzed metrics from online services
- Provided input into the product road map, including milestone schedules and deliverables
- Followed industry trends and maintained a strong cutting edge technology

Tech used: Electron(Desktop) TypeScript, NodeJS, ReactJS, React native, Redux, GraphQL, Storybook, Jest, Mocha/Chai, Cypress, Okta, OAuth 2

Senior Software Engineer

GrainDiscovery.com | Toronto, ON

January 2019 to January 2020

Working on an agriculture startup utilizing transparency of blockchain/hyperledger

As a new hire in a startup company, within a period of less than 2 months, I was able to

- Replace all docker deployments with Kubernetes on GCP
- Re-deploy all Nodejs webapps as static apps(with NextJS) which reduced 80% of hosting fees
- Create a mobile version of their main webapp with react-native in less than 3 weeks.

Tech used: Kubernetes / Helm charts, Docker, GCP, Cloud Run/Build, Firebase, Redis, Postgres, Firestore/Real-time DB, NodeJS, ExpressJS, ReactJS, NextJS, React-Native, Redux/Thunk/Saga, ReactJS Hooks/Context, Apollo GraphQL.

Senior Software Engineer

Cloudaxe.co | Toronto, ON

March 2018 to January 2019

Working on an open-source cloud saas based on Kubernetes

I co-founded an open-source tool for deploying webapps with Kubernetes

- Built backend in NodeJS + Typescript, with API's powered by GraphQL
- Frontend with ReactJS, Redux-free frontend using latest React Hooks & context.
- DevOps with Kubernetes - I wrote custom Go lang micro-services for utilizing deployment with Kubernetes,
- Server costs and deployment dropping to \$20 per month - this is the lowest-cost Kubernetes I have ever built running on digital ocean.

Tech used: Kubernetes / Helm charts, Docker, Digital Ocean, Firebase, Firestore/Real-time DB, NodeJS, ReactJS, Hooks context, Storybook, Mocha/Chai, Apollo GraphQL.

Senior Software Engineer

Cox Automotive | Toronto, ON

January 2017 to February 2018

Working on CMS's & Car dealership portals, logistics apps e.t.c

- I handled resources developed by outsourced entities and brought most work back in-house
- Re-architect and re-design legacy solutions to support increasing growth/scalability
- Reduced server costs using Kubernetes & Docker
- Replaced REST APIs with GraphQL e.t.c

Tech used: Kubernetes / Helm charts, Docker, AWS, Lambda, CodeBuild, CodePipeline, DynamoDB, Redis, MySQL, MongoDB, NodeJS,ExpressJS, ReactJS, Styled components, NextJS, Gatsby, Redux/Thunk, Storybook, Jest, Mocha, Chai, Apollo GraphQL, Okta, Auth0, OAuth 2

Senior Software Engineer

Vuga.io | Toronto, ON

January 2016 to January 2017

Vuga.io

IoT devices for providing internet access to rural areas

Co-founded and led the development of a decentralized WiFi mesh solution.

- Configured and built a custom firmware based on OpenWRT for WiFi routers providing free internet.
- Developed mobile apps for video streaming with WebRTC.
- Web apps developed in ReactJS+Redux+Apollo connecting to a local GraphQL API.
- Local deployment on local ubuntu servers
- Deployed and maintained TURN/STUN servers locally

Tech used: IEEE 802.11x, OpenWRT, WebRTC, Redis, MongoDB, NodeJS,ExpressJS, uWebSockets, ReactJS, NextJS, React-Native, Redux, Styled components, Apollo GraphQL

Software Engineer

ProtoType Ottawa | Ottawa, ON

February 2015 to January 2016

My roles covered from creating new startup ideas, maintenance existing NodeJS, Python backends hosted on AWS, front-end development with UI / UX designers

- Main developer for several projects involving new architectures and maintaining legacy code, such as REST API, management system, with admin CMS and different user experiences based on user roles(admin Vs user)
- Some of the technologies used: NodeJS, MySQL, PostgreSQL, Redis, Angular/2/6, Bootstrap, ReactJS, Sass, Git, BitBucket, AWS, Azure, Jenkins, TravisCI, Terraform.

Remote Software Engineer

Vuga

April 2014 to January 2015

I have worked as a remote full-stack software engineer for several companies from different markets and countries, thus dealing not only with different time zones, but also with different work cultures and philosophies.

- Main languages and technologies required: AngularJS, Ember.js, Bootstrap, MySQL, Wordpress, Zend Framework 2, ASP.NET.

Software Engineer

Royal Media services

January 2013 to March 2014

Working for final clients to develop and maintain custom web software applications, including e-catalogs, learning management systems and health care portals.

- My services cover either integrating my clients' engineering teams as a consultant, either conducting the full software life cycle management from design to implementation, test and deployment.
- Main languages and technologies used: Angular/1, TypeScript, ReactJS/Flow, ES6, Laravel, MongoDB, Oracle, PostgreSQL, Node.js, J2EE, Java Spring, Sass, CSS3, HTML5, Amazon AWS, Docker, Jenkins.

Freelance web developer and entrepreneur

Vuga

2011 to 2013

- I co-founded a web development studio, where I acquired many technical and soft skills: HTML, PHP, CSS, XML, JavaScript, Flash, e-Commerce, SEO, W3C, LAMP, product and project management.

Education

Computer Science (BS)

Mbarara University of Science & Technology

2012 to 2015

Skills

Software testing Linux System design Software Development Debugging Website maintenance GCP Visual design gRPC UNIX Project management Waterfall COBIT PaaS HTTPS Identity & access management Business requirements Informatica Firmware Azure MySQL TCP/IP PyTorch Business analysis SSL Cucumber Spark HIPAA Systems engineering PowerShell DHCP SoapUI WAN Usability GitLab EDI Full-stack development Product management MongoDB Kanban ERP systems Debian High availability Redis Figma Adobe Illustrator Software deployment GitHub Redux Recruiting Data modeling Node.js Express.js S3 Financial services Spring Boot Tableau Android Kafka COBOL iOS development SQL Database management Telecommunication NGINX Active Directory SVN System administration Git JavaScript Agile Axure SOAP iOS DNS Maven Requirements gathering UI development Performance tuning Computer science Confluence JBoss Ansible DB2 Golang Network protocols XML Scrum Performance testing Data analytics REST NoSQL Business intelligence Database design Python Data structures Swift Data warehouse Power BI PostgreSQL Encryption OS Kernels HTML5 Java Redshift React GraphQL Enterprise architecture Hibernate React Native PL/SQL AWS Lambda Distributed systems CI/CD Adobe Photoshop SDKs SCSS ReactJS .NET DevOps Databases Data analysis skills APIs OOP Analysis skills Mobile devices Rust SharePoint Adobe XD SQLite TypeScript Visual Studio Integration testing Dart C# Information security Graphic design OpenCV Web accessibility T-SQL IT auditing VMWare Puppet Relational databases Firewall Computer networking JSON Information architecture Web services Shell Scripting IaaS Oracle Information management NodeJS Analytics Budgeting Schematics Entity Framework ECMAScript Test-driven development TCP Assembly Test cases FPGA CSS

LAN Design patterns SEO Windows Design thinking TFS SaaS RESTful API Service-oriented architecture UI design Big data Test automation CAD Load balancing TensorFlow Jira Scripting Kubernetes R Data collection Kotlin JSP AWS Docker UI New Relic Continuous integration System architecture OSPF

Links

<https://github.com/ceddybi>

<https://linkedin.com/in/ceddymuhoza>

<https://stackoverflow.com/story/ceddy>

<https://twitter.com/ceddymuhoza>

Certifications and Licenses

Professional Machine Learning Engineer

June 2021 to Present

Professional Data Engineer

January 2021 to Present

Certified Kubernetes Administrator (CKA)

August 2020 to Present

Professional Cloud DevOps Engineer

May 2020 to Present

Professional Cloud Architect

January 2019 to Present

AWS Certified Developer - Associate

2016 to Present

PROFESSIONAL SCRUM DEVELOPER

2015 to Present

Certified Information Systems Auditor

CISM

CRISC

Certified Project Manager

MCP

CCNA

CompTIA Network+

MCSE

ITIL Certification

MCSA

OSHA 30

LEED Certification

Professional Engineer

PMP

AWS Certification

CompTIA Security+

Driver's License

DoD 8570

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Additional Information

- You will find some open source projects on my Github account: <https://github.com/ceddybi>