Harold Camacho

Software Engineer

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💼 Professional Experience

Open Source Developer   2025/03 – present | Remote, Canada
Mozilla - Firefox

- Collaborated with Mozilla engineers and core maintainers to analyze complex browser bugs, contribute production-grade patches, and participate in Firefox's large-scale, review-driven open-source development process.
- Resolved multiple Picture-in-Picture (PiP) interaction issues on third-party sites by implementing domain-specific overrides and video wrappers to ensure smooth and consistent functionality.
- Enhanced Firefox's private browsing mode by updating UI logic to hide the "Clear cookies and site data..." button in private windows, and authored an automated browser-chrome test to validate the behavior across private sessions.
- Refactored Reader Mode code to improve language detection and text direction assignment for better localization support, standardized internal fields, and fixed downstream Link Preview integration to ensure full test suite stability across Reader Mode and AI-powered link previews.
- Leveraged tools such as Mercurial, Bugzilla, Phabricator, and Searchfox to navigate Firefox's modular architecture, investigate issues, submit patches, and validate changes across development builds.
- Authored a series of technical blog posts documenting and reflecting on the experience of contributing to a major open-source project.

Software Engineer   2024/10 – present | Remote, Canada & U.S.
Splinter splinter-app.github.io ⧉

- Architected a scalable, ephemeral AWS-based infrastructure that activates compute resources solely during data ingestion, enabling the system to scale to zero when not in use, eliminating idle-cost overhead, and improving cost efficiency.
- Implemented an event-driven system that ensures real-time updates to vector databases, where changes at the data source automatically trigger document addition, update, or removal in vector databases. Improving data freshness and accuracy in knowledge bases.
- Optimized AWS Fargate performance by creating lightweight Docker images and refining resource allocations, boosting efficiency by 70% and reducing ingestion time for a 2.2 MB PDF from 3.5 minutes to 1 minute.
- Integrated non-AWS document stores like Dropbox into the pipeline using DynamoDB, Lambda, and API Gateway, ensuring secure connectivity and a seamless user experience for document ingestion and management.
- Built an Observability Dashboard using React, and AWS WebSocket API Gateway for real-time ingestion insights, powered by AWS Lambda and DynamoDB.
- Developed a RAG Sandbox chatbot that validates ingested data by dynamically interacting with the database.
- Authored comprehensive technical case study, readable at splinter-app.github.io/case-study ⧉

Software Engineer   2024/05 – 2024/07 | Remote, Canada & Mexico
Cibera

- Implemented a robust backend using C#, ASP.NET ⧉ MVC, Entity Framework, and PostgreSQL, reducing data access complexity and improving maintainability.
- Built comprehensive data models, DTOs, and controllers to support complex credit calculations and financial reporting, ensuring accurate insights for business stakeholders.
- Designed and integrated PostgreSQL databases with Entity Framework, enabling efficient, stateful data tracking.
- Developed React and Ant Design-based front-end components to create intuitive dashboards, improving user satisfaction and reducing training time.

Software Engineer   2022 – present | Toronto, Canada
Open Source Projects

- RequestBin Clone: A web service that allows users to create custom endpoints to collect and inspect HTTP requests -- enabling the testing and debugging of APIs, webhooks, and other HTTP-based services. (Digital Ocean, Nginx, PostgreSQL, MongoDB, Node.js, Express, React)
- Simple Active Record ORM: Designed a Ruby-based ORM following Active Record principles for streamlined database interactions. (Ruby, PostgreSQL, PG)

🎨 Skills

Languages & Frameworks
Ruby, JavaScript, TypeScript, Python, Node.js, Express, Handlebars, Sinatra, React, ASP.NET, C#.

Cloud
AWS CDK, EC2, ECS, Lambda, S3, Batch, DynamoDB, API Gateway.

Other Technologies
PostgreSQL, MongoDB, Pinecone, Docker, Nginx, Digital Ocean, Git/Github, Mercurial, Phabricator, RESTful API's, Linux, Bash, Trello.

🎓 Education

Bachelor of Music BMus   2014 – 2019
Humber College, Toronto, ON

🪪 Certificates

- HuggingFace AI Agents Fundamentals (2025)