

# Dragos Rotaru

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## Software Engineer, aspiring Researcher

**Keywords:** WebGPU, CRDT, blockchain, Rust, Haskell, Lisp, Deep Learning, NeuroSymbolic AI, Compilers, Programming Language Design, Mathematics, Rust, TypeScript, React, NodeJS, NextJS, Protobuf, GraphQL, WebSockets, Postgres, Redis, AWS, CQRS, Event Sourcing, Monolith, Microservices, Serverless, Hexagonal, Functional, OOP, Open Source

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## Experience

### career break ➡

I took a year to ski all over North America, get certified as a wilderness first responder, convert a school bus into a camper and develop real skills. Built a CNC machine to produce a unique modular furniture system. Attempted to build carbon neutral + with upcycled materials. Experimented with all kinds of tools, materials and techniques. developed electrical system. tried with biodiesel production.

I am a Canadian-Romanian software engineer and entrepreneur approaching a decade of experience building all kinds of products and systems. My scope of work is extensive - I started my career designing analog + embedded music hardware and writing C code. Now I mostly do full-stack software engineering with a particular interest in Machine Learning and Programming Language Design. I am a polyglot capable of building systems in a wide range of languages and styles. I love to write experimental software, and my current side project obsessions include replicating machine learning papers on consumer hardware / WebGPU, and building a human-AI pair programming language + IDE.

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### Anytype / Software Engineer

October 2022 - May 2023 • Berlin (Remote)

developed desktop client and browser extension for P2P open source encrypted knowledge management tool. responsible for widget system implementation. promoted refactoring and documentation efforts to improve code quality. researched state of the art technologies across many domains. implemented new onboarding. fixed bugs and supported users in the public forum.

### Qualio / Fullstack Software / Devops Engineer

September 2020 - August 2021 • San Francisco (Remote)

developed a new customer data migration and onboarding tool to automate the workflow and reduce dependency on the engineering team. built using node, react, typescript, aws, s3, postgres. transformed spaghetti monolith architecture built by layers of contractors and implemented CI/CD pipeline application to achieve scalability and high availability. Worked with a lot of the AWS stack.

### Huckleberry / Cofounder / CTO

January 2019 - Now • Waterloo (Hybrid)

raised roughly 120k in funding. built 3 products, including ping.buzz, the huckleberry app and web extension using hexagonal, functional domain driven design architecture. Inherited failing outsourced app development project and turned it into an in-house success. We faced many challenges, especially funding and COVID related, but managed to release multiple products with customers. I mentored 12 co-op students from Waterloo university. I developed our data strategy + pipeline and formed strategic partnerships to get access to high quality housing data.

### Rotaru & Co / Software Contractor / Consultant

April 2017 - Now • Waterloo (Remote)

consulted over 20 clients in many diverse industries. Built a healthcare billing processing application using computer vision. developed 3 brand new web and mobile applications and contributed to 4 existing ones using react, python, typescript, flow, php, coffeescript, ruby on rails, golang, wordpress, gcp, vercel, aws, websockets, mongo, rabbitmq, postgres, digital ocean, travisCI, C#, Angular, Vue. consulted startup founders. came up with an NFT representing physical objects concept before NFTs were a thing. Organized volunteers at ETHWaterloo. led a software team and hired employees. build aggregated CASL compliant dataset of lawyers in canada and commercialized it. conducted independent research on a wide number of topics, including truth ranking, data fusion. built a QLearning agent. conducted ad campaigns and built multiple websites. made logos and branding. Attended neurips conferences and other industry events. produced data analysis for a class action lawsuit. performed an audit for a startup acquisition. digitized property management company of 20+ employees, working as contracted director of IT.

### **Emrys Analytics / Director of Analytics**

September 2016 - March 2017 • Waterloo (Hybrid)

developed underwriting risk models and desktop application for insuring healthcare institutions against cyber breach risk. utilized python, javascript, angular, nodejs, electron, graphql, mongo. aggregated and sanitized datasets. applied k-means clustering and monte-carlo algorithms. aided in design of insurer sponsored incident response playbook. wrote white paper on autonomous vehicle insurance data collection pipeline for Ford Motor Company executive team.

### **Diebold Nixdorf / Software Architecture R&D Internship**

May 2016 - August 2016 • London

developed redis IAM middleware architecture for large scale ATM banking infrastructure. built PoCs and conducted experiments, explored emerging tech including blockchain, webRTC, angular2, http/2, support vector machines for anomalous state detection. supported the highest level of decision making with data.

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## **Education**

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### **Western University / Comp. Sci. and Mathematics B.Sc.**

2014 - 2016, Canada

I am currently doing part-time classes to complete my degree and I intend to pursue research after. I dropped out due to financial issues.