Michel Carroll

Staff Software Developer

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HIGHLIGHTS

Full stack software developer with 12 years of professional experience working as an individual contributor for small-to-medium size technology startups. Versatile technologist with strong execution and communication skills. Leadership and project management experience in fast-paced settings. Results-driven approach that ties technical decisions to business objectives. Polymath with interests that include deep learning, game development business, and finance.

NOTABLE SKILLS

- Architect, implement and maintain software applications for startups with complex product requirements. Specialty in natural language processing related applications.
- Manage the scope and prioritization of software projects and technological roadmaps within the context of a business strategy and resource constraints
- Operate mission-critical software running within cloud environments, and troubleshooting production issues with a level head
- Communicate complex technical topics to business stakeholders and software teams
- Lead small development teams on time-sensitive and mission-critical projects

FAMILIAR TECHNOLOGIES

- Strong programmer with a bias for functional programming and domain-driven design.
    - Most fluent languages: *Python, Scala, Typescript/Javascript*
    - Other familiar languages: *Rust, Java, iOS Swift,, PHP, HTML/CSS, C, C#*
- Experience with a variety of SQL and NoSQL database technologies *(MySQL, Postgres, ElasticSearch, CouchDB, MonthDB, Neo4J, EventStore)*
- Experience managing server infrastructure *(AWS, Docker, Kubernetes)*
- Experience using large language models programmatically (*OpenAI*)
- Experience with big data technologies (*Spark, Kafka, Hadoop*)
- Experience with natural language processing libraries (*Lark, spaCy*)
- Experience with ELT and data warehouses (*Airbyte, Snowflake*)

MOST RECENT POSITIONS

Staff Software Developer - *AlleyCorp Nord, Montreal*

OCTOBER 2020 - PRESENT (> 2 years 3 months)

- Consulting with several early stage incubations over technological strategy, buy vs. build decisions, vendor selection, hiring decisions, product strategy/scope, software architecture, early proof of concepts and minimum viable product development
- Within scope of the **Rogo** incubation:
  - Lead software architect of most mission-critical software components of natural language interface,
    - query parsing, grammar, meaning representation, execution of queries against data sources, synonym indices, data catalog
  - Research and prototype solutions to parsing-related problems from academic papers on semantic parsing, synchronous context-free grammars, text-to-SQL
  - Manage AWS cloud infrastructure, writing and maintaining Terraform scripts, monitoring production service
  - Main contributor to engine codebase (Python/FastAPI)
- Within scope of the **Reside Health** incubation:
  - Led development of MVP patient portal application (Python/FastAPI, Typescript), now in regular use by their patients and clinical team
  - Integration with AthenaHealth (electronic health record system), main technical point of contact
  - Managed AWS infrastructure and automation scripts using Terraform/Ansible, including CI/CD pipelines
  - Secured cloud environments according to HIPAA compliance framework and enforced data security best practices
- As AlleyCorp Nord's first employee, highly involved with the first leadership team and technical hires.
- Guided the core development team's early agile development processes, quality standards and culture.

Software Architect - *ReactiveCore, Montreal*

APRIL 2019 - OCTOBER 2020 (1 year 7 months)

- Developing core components in a big data platform (*Scala, Spark*)
- Developing online notebook-based IDE environment to help elaborate client data processing pipelines and data science projects (*Python, Jupyter*)
- Developing CI tooling to improve development team agility (*Kubernetes, Docker, Bamboo*)
- Training and documentation around Kubernetes tooling and operation

Technical Lead of Customer Success & Delivery Team - *Automat.ai, Montreal*

AUGUST 2017 - APRIL 2019 (1 year 9 months)

- Developed a constantly evolving chatbot DSL inspired off LISP *(Scala, Akka)*
- Developed a visual chatbot builder for designers *(React, Redux)*
- Technical liaison in the customer success and delivery team
  - building complex chatbots integrating with third-party systems
  - product backlog roadmap grooming & creating technical specs

- quoting, estimating, planning new projects, codifying processes
- Co-managing account with one of Automat's largest customers in financial services
  - creating performance reports, project management

Technical Lead of iOS Team - *OMSignal, Montreal*

FEBRUARY 2016 - AUGUST 2017 (1 year 7 months)

- Led the iOS application development team
  - built mobile app interfacing with custom IoT device measuring biometric data
  - used event sourcing across mobile devices and backend services
  - used *Swift* with *ReactiveCocoa* for data stream processing
  - worked closely with data scientist, firmware, and product vision teams
- Spearheaded the development of the web application (*React, Redux, CouchDB)*
  - handled projections of complex biometric and geographical data

Others:

- **Full-Stack Web Developer -** *Woozworld (9 months from 2015 to 2016)*
- **Full-Stack Web Developer** - *FlightHub (8 months from 2014 to 2015)*
- **Backend Web Developer -** *Woozworld (2 years from 2012 to 2014)*
- **Lead Web Developer** - *Evocatio (1 year 2 months from 2010 to 2012)*
- **Freelancer** *(from 2009 to 2011)*
- **Web Developer** - *Contenta (9 months in 2008)*

FORMAL EDUCATION

McGill University, Montreal - *Bachelor of Science*

2019 - 2022

- Liberal Program in Biology. Minor in Computer Science
- Independent research – *Analysis of traveling waves in the visual cortex*

La Cité, Ottawa - *Ontario College Degree*

2006 - 2008

- Computer programming
- Highest grade in program. Class representative.

LANGUAGES

Native fluency in both English and French