

Robert McLarty

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I have built products at startups, consulted at enterprises and SMBs, and run my own businesses. I have a background in cognitive science, artificial intelligence, philosophy, computer science, graphic design, illustration, applied research, and creative technology. I'm best suited to be in a position where I need to solve unique problems that don't fit neatly into a prescribed box (I thrive in the unknown; tailoring solutions to custom contexts). My best skill is connecting disparate ideas and concepts across problem domains that may be more difficult for specialists to notice.

At the end of the day, I like making things. I like teaching other people how to make things. And I love it when we can all make things together that are bigger than ourselves.

Technologist - Full-stack Software Engineering, Systems Architecture, Security & Privacy, UI/UX/IX, APIs, Infrastructure, Performance & Monitoring

Creative - Illustration, Graphic Design, Writing, Motion Graphics, Photography, Fine Art

Teacher - Visualization, Presentation, Demo, Discovery, Communication, Consulting

Leader - Strategy, Process, Review, Hire, Coordinate, Collaborate, Mentor, Holistic Project Management

Researcher - Imagine, Experiment, Evaluate, Connect, Exapt, Prototype, Document

Experience

Technical Director

2023-present @ Computechnosoft

Took stagnating project from broken spaghetti code to modular, working, demo on Steam, now collecting wish-lists and marketing itself towards release candidate. Worked with artists and designers to take creative assets and integrate them with code to fulfill the interactive expression for telling the game's story and having fun.

Principal Software Engineer

2019-2022 @ WorkTango

Helped take company from less than 10 people to 50+ becoming an international SaaS working towards its IPO. Focused on software & systems architecture, cloud orchestration, and security. Lead internal committees, hired new staff, organized and guided production path, and stitched everything together: systems, people, practices, and docs.

Staff Software Engineer

2015-2019 @ Myplanet

Worked with Telus to develop custom proofs-of-concept for web and mobile apps requiring the highest levels of security and privacy as well as an integration of legacy and bleeding-edge tech. Also worked closely with Newstore to develop their new omni-channel retail e-commerce platform using custom serverless architecture and integrated fulfillment platform.

Senior Developer + UI/UX Designer

2013-2015 @ Verold

Created web application platform which acted as the authz & identity system and social network for the rest of the ecosystem (3D editor, graphics engine, coding IDE) and assisted in the design and development of those parts. Spoke at conferences, consulted on strategy, and collaborated on architecture, culminating in our acquisition by Box.

Staff Software Engineer

2011-2013 @ Overdrive Design

Lead technology efforts such as software development, archive process, hardware acquisition and management, staff knowledge sharing, and the hiring + onboarding of new engineers. Worked with many clients each with their own unique software challenges including custom CMSs, mobile ride hailing, museum kiosks, and custom e-commerce solutions.

Co-founder + CTO

2006-2011 @ Philosophy Factory

Managed office IT tasks like code versioning, asset archiving, comms, presentations and networking while also leading software development such as interface design, data modelling, code architecture, and diagnosing user experience. Coordinated contractors and kept clients updated on their projects' status. Worked with clients to design unique web presences for their brands, and provided custom software solutions such as live race results, CMSs, e-commerce, authz, games, ads, and back-office automation.

Formal Training

AWS Certifications

2016-2018 @ Amazon Web Services

Solutions Architect, Cloud Practitioner, Sysops, and Security.

Privacy by Design

2018 @ Toronto Metropolitan University

Applied software implementations following technical security considerations that uphold user privacy as a primary tenant.

Illustration & Graphic Design

2000-2003 @ Sheridan College

Editorial, Technical, and Digital Illustration, Data Visualization, UI/UX, Motion Graphics, Web, and Print.

Cognitive Science

1997-2000 @ University of Toronto

Computer Science, Philosophy, Linguistics, Psychology, English, and Classics.

CSIA Ski Instructor

1996-1997 @ Blue Mountain Resort & Chedoke Ski Centre

Level-1 certification: entry-level skiing and basic racing.

Canadian Ski Patrol

1996-1997 @ Snow Valley Resort

Emergency first-aid and mountain rescue.

National Lifeguard

1995-1997 @ McNab Recreation Centre

First aid and emergency response for incidents in and around pools.

Volunteering

Open Source Developer + Maintainer

1997-present @ see selected projects below

Director of Technology

2023-present @ MTBCO

Ride Leader

2018-2020 @ Dark Horse Cycling Club

Cycling Safety Advocate

2015-2020 @ City of Toronto

Computer Technology Instructor

1999-2001 @ Simcoe County Board of Education

Ski Patrol

1995-1997 @ Snow Valley Resort

Swimming Instructor

1993-1997 @ HWAC

Spoken Languages

English

Native.

French

Business-Conversational: attended French-immersion grade school.

Computer Languages

Browser: Javascript (vanilla & ES6+), Typescript, HTML, CSS, Sass/Less

Server: Javascript (Node), Ruby, Python, Elixir, PHP, Perl

Data: SQL (Postgres/MySQL/SQLite), Redis, XML, CSV, JSON, Yaml, MongoDB

Documentation: Markdown, JSDoc, PEP

Infrastructure: Nginx, Apache, PM2, Docker, Bash

Network: REST, SOAP, GraphQL, Websockets, SIP, FTP, HTTP

Game: GDScript, Actionscript, , JS, C, C# (Unity)

General: C, C++, Ruby, Java, Python, Pascal, Turing, Basic, Lua

Templates: Haml, Nunjucks, Underscore, Liquid, ERB, EJS, Handlebars, Mustache, JSX

Coding Frameworks

UI: React, Angular, Preact, Vue, Backbone, jQuery, Storybook, Knockout, React Native, PhoneGap/Cordova, Electron

Server: Node, Rails, Express, Knex, Wordpress, Phoenix, Next.js, LoopBack, CakePHP, WS, Symphony, Flask, Sinatra

Generators: 11ty, Jekyll, Hugo, Hexo, Gatsby

Styles: Normalize, Tailwind, Bootstrap, Sass/Less, MaterialUI

State: Redux, ActiveModel, Signals, PWA, Hexagonal, XState, Reactive

Security: NaCl, Stripe Protocol (for double-ratcheted E2EE group chat), Letsencrypt, OAuth, Cred, Auth0, Okta, OpenSSL

Test: Rspec, Jest, Mocha, Jasmine, Selenium, ESLint, MSW, Tape, Testunit, AVA, Enzyme, SuperTest, Chai

Game: Unity, Godot, Pixi, Phaser, FlashPunk, PushButtonEngine, Allegro

3D: Three.js, Pixi, WebGL, SketchFab, Verold

AI: PyTorch, TensorFlow.js, OpenAI

Payment: Shopify, Stripe, Authorize.net, Monaris, Lightspeed, Netsuite

Build: Rollup, ESBuild, Parcel, Webpack, Husky, Browserify, Babel, CRA, Gulp, Grunt, Capistrano

Versioning: GIT, NPM/Yarn, NVM, RVM, SVN, n, Gem, Homebrew

Infrastructure: AWS, Digital Ocean, Media Temple, Cloudflare, Hover, Twilio, Google

Orchestration: K8s, Docker Swarm, Fargate, EC2, Passenger

Monitor: Mixpanel, Datadog, New Relic, PM2, Splunk

Deploy: Puppeteer, Github Actions, Gitlab CI, Travis CI, Bitbucket Pipelines

Software Tools

Graphics: Photoshop, Lightroom, Illustrator, GIMP, Affinity Photo

Design: InDesign, Quark Express, Affinity Designer, Sketch, Figma

Motion: Final Cut Pro, Premiere, Flash, After Effects

Code: Sublime, Atom, Vim, Visual Studio, Notepad, CLI

Communication: Discord, Slack, Teams, Zoom, Google

Coordination: Trello, Notion, Jira, Assana, Basecamp

Security: Lastpass, 1Password, KeyPass

AI: ChatGPT, Midjourney, Copilot, Flux

Versioning: Github, Gitlab, Bitbucket

Game: Unity, Unreal, Godot, Flash

Apps

Safe Dose

2023-present @ Rocket Flower

Personal medication-management tool and E2EE zero-knowledge cloud-based mobile app to securely store and share sensitive medical data with healthcare providers.

Hello, Cave Monster!

2023-present @ Computechnosoft

Desktop and console tactical RPG game where the player attempts to establish friendly relations with alien beings on other worlds through communication techniques instead of fighting. Distributed on Steam.

Droto

2018-present @ Rocket Flower

Tool and method to coordinate project stakeholders more holistically, organically, and easily, with a bit of (optional) gamified fun. Secure cloud-based project management and visualization web app for individuals, SMBs, and enterprises.

Employee Pulse

2019-2022 @ WorkTango

Measure and improve employee sentiment and engagement through secure anonymous surveys, business insights, and real-time dashboards. Feedback is more genuine and business-actionable when participants know their inputs are protected.

Newstore

2018-2020 @ Myplanet

Unified e-commerce platform anchored in an omnichannel PoS and consumer shopping apps, complete with built-in order management, inventory, clienteling, loyalty-management, and dynamic fulfillment.

Wellness Messenger

2018-2019 @ Telus

Securely coordinate the communication of sensitive and private user medical data to enable sharing only between trusted sources (e.g., doctor, technician, family).

Phone Collider

2018 @ Telus

API and native app to help simplify interactions between customer endpoints and IMS systems for authz, placing & receiving calls, messaging, e911 and push notifications. Enables interaction with SIP/SMS telecom networks over IP networks.

BaRSS

2016-2017 @ Rocket Flower

Web app to read and manage multiple RSS feeds in a single easy-to-use interface that presents articles in user-configurable columns (bars) with real-time updates.

Verold

2013-2015 @ Verold

WebGL studio, community hub, cloud platform and API (think Unity in a web browser, plugged into its own Instagram). 3D visualization, animation, editing/modelling, code-controlled, native web, and security.

Co-op Ride Hail

2010-2013 @ Co-op Cabs

Standalone mobile web app and CMS integrated directly into cab company dispatch system + GPS tracking for real-time updates.

CAPT

2012 @ Canadian Association for Psychodynamic Therapy

Find, meet, learn, and interact with therapists nationwide, in the cloud, private and secure.

Burgess Shale Kiosk

2010-2012 @ Royal Ontario Museum

Interactive exhibition kiosk touch-screen application with automated statistical analyses and backend admin controller with reporting, data management, and visualization.

Tour d'Afrique

2006-2012 @ Tour d'Afrique Ltd

Live race tracking & results from remote locations (middle of Africa) via satellite uplink + custom CMS.

Sportacular Events

2007-2008 @ Sportacular Events Inc

Regional hockey league management system. Cloud-based CMS, back-office automation, security, and events management.

Open Source

cred

Authentication + authorization for NodeJS apps using JWT for transport.

<https://github.com/robmclarty/cred>

soko

CLI tools for building and running javascript applications.

<https://github.com/robmclarty/soko>

storium

Unified cloud storage abstraction for Knex apps.

<https://github.com/robmclarty/storium>

fuzzle

CLI tools for static asset name reversioning.

<https://github.com/robmclarty/fuzzle>

crypto-butter

Collection of cryptographic functions for web clients.

<https://github.com/robmclarty/crypto-butter>

knex api template

Example starter web server NodeJS API with scalable architecture.

<https://github.com/robmclarty/knex-express-project-sample>

robchat

Double-ratcheted E2EE websocket zero knowledge (client + server) group chat app.

<https://github.com/robmclarty/robchat>

suggestible-input

React component for fast selectable list of fuzzy-matched suggestions in an input field.

<https://github.com/robmclarty/suggestible-input>

paginated-redux

React/redux state management for paginated records.

<https://github.com/robmclarty/paginated-redux>

nginx-config

Reference nginx config files using SSL and reverse proxy. A+ rating on SSL Labs.

<https://github.com/robmclarty/nginx-config>

nav_panel

A simple navigation component for your Rails app admin interface.

https://github.com/robmclarty/nav_panel

Articles

What is a JSON Web Token?

https://robmclarty.com/words/articles/what_is_a_jwt

Loop Heuristics in Javascript

https://robmclarty.com/words/articles/loop_heuristics_in_javascript

Docker is Fun and Easy

https://robmclarty.com/words/articles/docker_is_fun_and_easy

Personal Security Tips

https://robmclarty.com/words/articles/personal_security_tips

Is There Something Better Than Time-Tracking?

https://robmclarty.com/words/articles/is_there_something_other_than_time_tracking

Reduce Complexity, Not (Necessarily) Code

https://robmclarty.com/words/articles/reduce_complexity_not_code

Alternative React Component Patterns

https://robmclarty.com/words/articles/alternative_react_component_patterns

Stripe VS Paypal

https://robmclarty.com/words/articles/stripe_vs_paypal

The Business of Privacy

https://robmclarty.com/words/articles/business_of_privacy

Machine Learning Is Not Learning

https://robmclarty.com/words/articles/machine_learning_is_not_learning

How I Learned to Stop Worrying and Love the Cascade

[https://robmclarty.com/words/articles/
how_i_learned_to_stop_worrying_and_love_the_cascade](https://robmclarty.com/words/articles/how_i_learned_to_stop_worrying_and_love_the_cascade)

A Good Leader Aligns

https://robmclarty.com/words/articles/a_good_leader_aligns

Don't Use HPKP by Default

https://robmclarty.com/words/articles/dont_use_hpkp_by_default

The Creative Process in Software Development

https://robmclarty.com/words/articles/creative_process_in_software_development

Installing Let's Encrypt With Certbot

https://robmclarty.com/words/articles/installing_letsencrypt_with_certbot

Other Interests

Mountain Biking

2018-present

Love my full-face DH laps (whether jumping gaps or smashing tech), but also enjoy the odd XC adventure into remote parts of the forest.

Skiing

1995-present

Raced, patrolled, instructed, carved, and free-rided, but have still never touched a snowboard.

Writing

1995-present

Collection of ontological investigations, technical manuals, science fiction, project management techniques, code patterns, and bad poetry.

Road & Gravel Cycling

1994-present

Love getting lost in farmlands and covering vast distances with my own body's power. Climbed the highest mountain in Thailand and can pump out almost 2000W in a sprint.

Hiking

1982-present

Adventuring off-grid with friends, around the neighbourhood with mom, or all the way to the summit of a mountain solo, nothing beats immersion in nature.

Gaming

1980-present

Love Settlers, Chess, and Axis & Allies. Dumped many hours grinding to realm-firsts in WoW and FFXIV. My guilty pleasure is Civ V. I'm Intellivision years old.

Life Drawing & Painting

1980-present

Pressed for time and direct from reality are my favourite ways to capture human beauty. Won my dad's company art contest when I was 3.

Swimming

1979-present

Have been in a pool since before I could walk. Broke three Canadian age-group records which stood for over twenty years.

References

Available upon request.