




# Eric McDonald

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 [github.com/librick](https://github.com/librick)

## Skills

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- Python | JavaScript | TypeScript | Go | C | C++ | C# | .NET | Functional programming | OOP
- Node | Express | React | Next.js | Tailwind CSS | PostgreSQL | MongoDB | Auth0 | GraphQL
- Azure | Kubernetes | Docker | Ansible | CI/CD | Jenkins | RabbitMQ
- Linux | Networking | SSH | TCP/IP | Wireshark | Unix sockets | VPNs | Proxies | Distributed systems
- Security | Cryptography | Ethereum | Polkadot | libp2p | Reverse engineering | Ghidra | Android | age
- Algorithms, data structures, linked lists, queues, maps, hashes, trees, graphs, tries, regexes
- Machine learning | CUDA | PyTorch | OpenCV | CNNs | Numpy

## Experience

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### Security Researcher

Open Source

Cleveland, OH 09/2023 - Present

- Conducted research into OpenWRT, router firmware used by thousands of people
- Discovered vulnerability [CVE-2022-41435](#), patched the next day by OpenWRT maintainers
- Added support for importing new types of SSH keys from OpenWRT's web interface
- Reverse engineered Honda Civic headunits, documented Android-based infotainment system
- Published Honda Civic research on [GitHub](#); it's now a popular repo with 100+ stars
- Used Ghidra to disassemble and decompile native Android libraries, used apktool to extract APKs
- My Honda Civic research was covered by tech news site [Hackaday](#)

### Lead Software Engineer

LiquidPower (LSPI)

Houston, TX 10/2020 - 11/2021

- Led design and development of 30+ Node & Python microservices for industrial control systems
- Replaced team of 20+ contractors, significantly decreasing business expenses
- Discovered and disclosed security vulnerabilities directly to C-Suite, CIO, CFO
- Transformed business' CI/CD pipeline with Jenkins, Git, and Elasticsearch
- Managed and automated hybrid cloud infrastructure through Microsoft Azure
- Created and managed production Kubernetes clusters, PostgreSQL DBs and Redis stores

### Software Engineer, ML Researcher

Perceptron LLC

Cleveland, OH 01/2019 - 09/2020

- Built machine learning (ML) models for industrial safety equipment detection
- Worked with ML and data processing tools including CUDA, PyTorch, OpenCV, and NumPy
- Used state-of-the-art algorithms for object detection and image segmentation

### Software Developer

Hyland Software

Westlake, OH 06/2016 - 12/2018

- Worked on large C# codebase for healthcare and finance document tracking
- Wrote REST APIs with C#, .NET Framework, and MSSQL
- Researched use of cryptography and blockchain for healthcare and PHI auditing
- Built modern SMS system using Twilio