

# Joshua D. Dick

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## PROFESSIONAL SUMMARY

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Principal/senior software engineer with 15+ years experience developing full-stack web applications in Python, TypeScript, and JavaScript. Proven track record of collaboratively delivering maintainable, pragmatic and well-tested code. Passionate about mentoring others and optimizing development tooling and processes.

## SKILLS

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- **Language proficiencies:** Backend Python (FastAPI, Starlette, Flask, Pydantic, SQLAlchemy, Celery, Poetry, Pytest) and backend TypeScript/JavaScript (Node.js, Express, Koa, Mocha, Jest, Jasmine).
- **Technology proficiencies:** Linux/UNIX shell scripting (bash, zsh), Git (including branching models and troubleshooting), Docker, SQL (PostgreSQL, MySQL), Redis, CI/CD pipeline creation/maintenance (CircleCI, GitHub actions, Jenkins), Amazon Web Services (AWS), Terraform, Auth0, general PC repair/troubleshooting (Mac/Linux/Windows).
- **Previous experience with:** Frontend TypeScript/JavaScript (Underscore/Lodash, Webpack, Backbone.js, jQuery, Cypress, Selenium), GraphQL, Java, JSP, Groovy, HTML, CSS/Sass, Cassandra, and PHP.
- **Limited experience with:** Next.js, React and Redux.

## WORK EXPERIENCE

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### Principal Software Engineer

2019 — 2025

Indigo Ag

*Boston, MA*

- Led backend architecture design and development of Python/TypeScript core microservices managing users/accounts/identity, authentication, authorization, business entities and their relationships, and corresponding internal SDKs. Wore many other hats as a member of a small infrastructure team: internal engineering support, devops, release engineering, etc.
- **Principal Software Engineer** | 2020-2025
  - Led design/development to re-architect a Python core authorization subsystem, achieving a **>200x write speed improvement (P95 time 4.5s → 15ms)** for critical-path APIs widely used by downstream applications; incrementally deployed with zero downtime and no downstream integration changes required
  - Led design/development to re-architect a Python identity management service to enable SSO social login and identity-linking functionality for end users
  - **Reduced operating cost** by consolidating and decommissioning legacy services, and optimizing compute resource allocation with Amazon Web Services (AWS) and Terraform
  - Led and coordinated cross-team incident response and mitigation for production outages
  - Mentored colleagues across multiple Scrum teams through code/design reviews, collaborating on defining engineering requirements, and answering everyday questions
- **Senior Software Engineer** | 2019-2020
  - Implemented a monorepo for internal library code (TypeScript/Lerna), with a corresponding CircleCI CI/CD pipeline for publishing packages to AWS CodeArtifact, and extensive developer documentation for testing developer-local changes to monorepo packages in consuming applications
  - Added an API authorization layer to a set of existing Apollo GraphQL TypeScript services, using GraphQL Shield
  - Overhauled TypeScript linting and formatting across multiple microservices to work identically in development environments and CI, eliminating developer friction
  - Performed general backend development on Indigo's grain marketplace product, using TypeScript and Apollo GraphQL

### Architect and Software Engineer

2009 — 2019

Cisco Systems

*Boxborough, MA*

- Led design and full-stack web development of various IP telephony applications within Agile teams
- **Architect**, Care Assistant / Webex Teams Care; a chat-based virtual assistant (Koa/NodeJS backend) | 2015-2019
  - **Led a 12-person engineering team** through all aspects of software design, development and Agile processes
  - **Reduced operating cost and increased developer efficiency** for the entire engineering organization by proposing and spearheading a migration to Git from a previous enterprise version control solution; trained and supported the entire engineering organization on Git usage and best practices
  - Implemented a monorepo for internal code sharing, and corresponding Jenkins CI/CD pipeline

- **Software Engineer** | 2009-2015

- Context Service, 2014-2015: Led design and development of public JavaScript SDK and Java backend/APIs
- Packaged contact Center Enterprise (PCCE), 2012-2014: Architected UI using Backbone.js and DataTables; built modal table component with filtering and infinite scrolling; general development of Java backend
- Finesse, 2011-2012: Helped design real-time messaging architecture and APIs using Java and Openfire server/BOSH protocol; UI development using jQuery/Dojo
- 2009-2011: Full-stack design and development of various admin UIs with JSP/jQuery/Dojo frontend and Java/Hibernate/Spring backend

**Software Consultant**

2014 — 2015

Sole Proprietorship

Nashua, NH

- Architected and built a web-based UI to visualize real-time locations of fleet vehicles on a map and data about each vehicle, using APIs from the client's existing software platform
- Used Google Maps API, socket.io, Bootstrap, Backbone.js, jQuery, DataTables and RequireJS

**Architect**

2011 — 2014

Innovative Childcare Solutions

Norwood, MA

- Architected and built a prototype iPad+Android tablet application for use by child care centers
- Frontend used PhoneGap, Bootstrap, Backbone.js, jQuery, and RequireJS; backend used CakePHP

**PERSONAL PROJECTS AND HOBBIES (SEE MORE AT [HTTPS://JOSHDICK.NET](https://joshdick.net))**

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- **callook.info**, 2008-Present: Website for viewing public FCC data about US-based amateur (ham) radio callsigns; exposes a **public, free API that serves ~175,000 requests/day**, widely adopted by various commercial and community ham radio applications | <https://callook.info>
- **onedark.vim**, 2015-Present: A dark color scheme for Vim/Neovim inspired by the Atom editor's One Dark syntax theme; 3900+ GitHub stars | <https://github.com/joshdick/onedark.vim>
- **miniProxy**, 2005-2020: A simple, open-source web proxy written in PHP; downloaded over 10,000 times | <https://github.com/joshdick/miniproxy>
- **GuitARMHero**, 2008: Worked on a four-person team to create a device that plays the game "Guitar Hero III" automatically; wrote C++ code to control gameplay via an ARM9 processor development board running embedded Linux
- **Hobbies**: Composition and production of electronic music using synthesizers and grooveboxes (<https://joshdick.net/music.html>). Currently learning bass guitar, also play drums and piano.

**EDUCATION**

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**Worcester Polytechnic Institute (WPI)**

Worcester, MA

*Bachelor of Science, Computer Science*

2009