

# Patrick Rose

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## Work History and Projects

### Spectacles to Unitree Teleop

2025

- Built an AR interface and backend software for live teleoperation, hand tracking, and inverse kinematics solving on a Unitree G1 humanoid robot using the Snapchat Spectacles.

### Senior Software Developer at Notable Systems

2022 – 2024

- Researched document segmentation and developed PyTorch CNN insurance card detection model with ~98.7% accuracy on production data
- Wrote a machine learning inference server with Go + PyTorch that dynamically loads models to serve document classification requests for gRPC clients
- Designed and used development & production Docker containers (CV & ML stacks), allowing for quick start-up for developers working on ML training instances, and a uniform dev & prod environment
- Created GitHub Actions for CI/CD from git to AWS ECR, ECS, Lambda, enabling automated builds and deployment to test systems
- Developed a public-facing OpenAPI service for B2B use of document processing systems
- Created gRPC microservices and AWS Lambda functions to scale production on demand
- Wrote a TextMate grammar for a document parsing DSL to provide syntax highlighting in VS Code and Sublime Text to help onboard data extraction programmers

### Software Developer at Rosendin

2021 – 2022

- Worked with internal customers (field electricians, BIM) to take applications from business problem to production
- Wrote several full-stack React and .NET Core applications
- Developed a standard template for creating SPAs and backing APIs with React, C#, and Azure OAuth
- Created database schemas and migrations for ETL of user-provided data
- Extracted data from CSVs, Excel, DBs, and displayed the results in interactive SPAs
- Created NPM repos and semantic-versioned releases for React components, SDKs, and utility functions
- Wrote OpenAPI and GraphQL services and provided SDKs for TypeScript & C# clients
- Added telemetry to systems via OpenTelemetry, Jaeger, and Azure Application Insights
- Added automated linting, static code analysis, and documentation generation to existing projects
- Implemented UUIDv7 in C# based on the IETF proposal

### Software Developer at FIRST Robotics Team 4415

2015 – 2018

- Wrote target-detection and auto-aim software with Python and OpenCV on the NVIDIA Jetson for wheeled robots
- Contributed to data-entry websites for timekeeping

## Software Experience

Dev (Server):	Rust, Go, Python, C# .NET, PyTorch, Convolutional neural networks, gRPC, OpenAPI, PostgreSQL, Linux (Debian and Arch derivatives), ZFS, bash
Dev (Client):	React SPAs, TypeScript, CSS, static sites (Hugo, Go templates), ESLint, Esbuild
Ops, infra:	AWS, Terraform, Docker, GitHub Actions, OpenTelemetry, MS Graph API & Entra ID