Josh Kotrous

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Experienced software developer across many different technologies including Python, TypeScript, AWS, and more. I am specialized in technical leadership to build high-performing software and automation development teams. Through my consulting experience I have worked with over 100 clients to deliver successful software projects, workshops, and other consulting services. Along the way I have onboarded, trained, and organized a core development team to provide these services to clients and have managed teams of over 40 developers. In my most recent position I have brought these skills as a founding engineer to Pensar to build the next generation of automated application security.

Professional Experience

Pensar

Founding Engineer — September 2024 - Present

- Currently building an automated application security web platform
- Developed the end to end platform by working directly with the founders to define business requirements, design product architecture, and develop the platform accordingly
- Helping build the company at it's earliest stages and secure our first customers by working directly with the founders to define product, marketing, and sales strategy
- Communicate with external partners to implement early pilots and integration initiatives
- Act as a developer evangelist by participating in bi-coastal events to build a community and increase product visibility

American Express

Senior Software Engineering Manager — April 2023 - September 2024

- Mentored a team of 12 software developers in the Business Conduct Intelligence sector
- Modernized the regulatory business self testing procedures by helping transition from a Sharepoint based platform to a centralized platform built on Appian
- Reduced overall contractor headcount by hiring 2 full time development resources and implementing transition plans to integrate them into the team
- Effectively supported over 200 daily active users by designing and implementing a Slack and Jira based production support model
- Ensured 99% application uptime by helping design our disaster recovery plan and leading the corresponding exercise and review
- Co-led an NLP integration to automate the transcription and review of call recordings against a list of preset questions

Neostella

Engineering Manager — January 2022 - April 2023

- Maintained an employee retention rate of 93% by mentoring and fostering the careers of over 40+ offshore developers in varying technologies and levels of experience
- Improved overall code quality and developer experience by defining proper development and deployment best practices implemented in over 400 GitHub repositories
- Helped streamline our delivery processes by continuously evolving our SDLC
- Maintained a resource utilization rate of at least 80% measured in billable hours by Business Intelligence reporting and implemented learning curricula for developers with available capacity
- Helped develop company structure by collaborating with C-level leadership to define job descriptions, SOP, and other company policies
- Helped the business grow from $8 mil ARR to $16 mil ARR by expanding the engineering team to multiple technologies including UiPath, Workato, AWS, Python, and React
- Supported the hyper growth of the business by expanding the software development team from 20 to 40+ developers

Engineering Team Lead — May 2021 - January 2022

- Oversaw the automation development team of over 20 developers
- Supported the early growth of the business by helping expand the development team from 6 to 20+ developers
- Worked directly with over 60 clients to manage projects, provide workshops, and any consulting needs
- Performed code review and provided technical feedback to developers

Senior Software Engineer — November 2020 - May 2021

- Designed and built new automations using UiPath
- Maintained production UiPath processes
- Implemented UiPath Test Suite including Test Cases, Test Manager, and Mobile Testing

Skills

- Python
- Django
- Flask
- Serverless
- TypeScript
- Next.js
- Node.js
- React
- Git
- GitHub
- GitHub Actions
- Jenkins
- Jira
- Confluence
- AWS
- Google Cloud Platform

Education

University of Nebraska at Omaha - Omaha, Nebraska — August 2019 - May 2020
Computer Science B.S.

New York Institute of Technology - New York, New York — August 2018 - May 2019
Computer Science B.S.

Projects

Note: This is not a full list of my professional and personal projects, only highlighted professional projects. To see more of my personal projects please visit my GitHub here: https://github.com/joshkotrous.

Console

Pensar

AWS (Various Services), SST (Infrastructure as Code), TypeScript, PostgreSQL, React.js, Next.js, OpenAI API, Anthropic API

Pensar Console is a web application built to manage the end-to-end process of managing security vulnerabilities in a codebase. As the sole engineer of this project, I am in charge of the overall system architecture and developing the product itself. Our web application enables users to connect a GitHub repository using the GitHub API. The user can then initiate a remote scan on the repository using static analysis to identify any found vulnerabilities. The result of the static analysis is sent to our "triage pipeline" where we augment the chain of thought of multiple ML models to understand its risk of exploitability and if the vulnerability is a false positive. If the vulnerability is exploitable, our web application generates a patch to fix the vulnerability using an LLM that can then be merged into the codebase via a pull request. We've also built a LLM based "vulnerability hunter" that is designed to detect zero-day vulnerabilities in a codebase using LLM based dynamic analysis to find unknown exploitable vulnerabilities. Finally, we've wrapped this into a web application format that houses the data and provides the reporting needed to help users achieve SOC2 and other compliance milestones.

Business Conduct Monitoring Application

American Express

Appian, PostgreSQL

The Business Conduct Monitoring Application is a web application built for the business self testing teams at American Express. This application was built on the Appian platform and facilitates all of the workflows and business rules associated with the business self testing processes. To achieve this level of automation the platform is integrated with several internal applications including Salesforce, Sharepoint, LDAP and more to receive its input data and handle authenticating users. Additionally we built an integration with a NLP model that automates the process of reviewing a recorded call and populating a list of questions with data from that call.

NeoJumpstart

Neostella

Python, Serverless Framework, TypeScript, React.js, AWS (Various services)

NeoJumpstart is a web application template used to easily build and deploy custom web applications for clients with any use case. This template consisted of building several components for the frontend, backend, and infrastructure operations. The backend was built in Python with the Serverless framework to handle all backend functions and communication with the AWS RDS Aurora database. The backend is deployed to AWS Lambda and accessed by the frontend through AWS API Gateway and AWS Secrets Manager. The frontend was built using TypeScript and React JS and is deployed to AWS Amplify. Out of the box NeoJumpstart supports logging in, creating an account, managing users, managing groups, managing organizations, and more. This template became the foundation for building custom web applications for several of our clients.

HighFive & Pulse

Neostella & Lonesome Labs

Python, Serverless Framework, TypeScript, React.js, AWS (Various services)

HighFive and Pulse are two web applications we built for our client Lonesome Labs. These web applications were built using the NeoJumpstart framework mentioned above. Lonesome Labs provides products that support Amazon sellers and help them manage their storefronts. The HighFive application allows sellers to see review performance for their products - showing them how many products they've sold, which orders resulted in a review and which did not. The application also handled automating Amazon's "Request A Review" button which required sellers to manually request customers to leave a review for their product. Additionally, we built a companion application called Pulse. Pulse acts as a dashboard allowing sellers to see real-time insights on their storefront by displaying new orders and where orders are being placed geographically. Both of these applications averaged over 5,000 daily active users and growing.

Invoice ML Model Preprocessing Automation

Neostella

UiPath, C#

Built within a UiPath process using C#, the purpose of the Invoice ML Model Preprocessing Automation is to handle the selection and preprocessing of invoice documents for invoice machine learning model training input. By implementing a clustering algorithm the automation determines the similarity in documents, organizing them accordingly, handling removing outliers, and converting documents to grayscale. This automation improved our invoice ML model accuracy by 30% and eliminated the manual effort of training the invoice machine learning model for new clients.