Nathan Ferdowski

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Education	University of Illinois Urbana-Champaign
	Bachelor of Science in Computer Engineering, 2018

Experience

Jul 24 - Apr 25 **SkillStorm - Software Engineer - Full Stack**
- Built full-stack web applications using React, Node.js, Express.js, and TypeScript, delivering scalable RESTful services and enhancing user experience and system performance.
- Designed and implemented secure JWT-based authentication with role-based access control, ensuring data protection for both internal and external users.
- Engineered database-driven features with MongoDB and PostgreSQL, enabling efficient CRUD operations and seamless integration between front-end and back-end systems.

Mar 23 - Jun 24 **PMM - Senior Software Engineer - Cloud Architecture**
- Architected and built a serverless backend on AWS using Amplify, Cognito, API Gateway, Lambda, S3, and DynamoDB, enabling secure, scalable user workflows and media storage.
- Designed and implemented a cart microservice using DynamoDB's flexible schema and Redis caching to support low-latency, high-volume read/write operations for authenticated users.
- Integrated Stripe Checkout and webhooks to handle secure payments, leveraging AWS SQS to decouple and orchestrate post-payment workflows including order persistence and automated email confirmations via SES.

Apr 21 - Jan 23 **AT&T - Software Engineer - Cybersecurity**
- Designed and implemented a rule-based heuristic detection model using log data from Splunk, improving the identification of potential security threats across internal network activity.
- Built and maintained a data health monitoring dashboard in Splunk, tracking the volume and integrity of incoming log data to ensure reliability and completeness of security analytics.
- Collaborated with cybersecurity teams to perform data analysis on internal traffic and anomaly patterns, generating dashboards and executive reports that informed policy and security decisions.

Feb 19 - Apr 21 **AT&T - Software Engineer - Full Stack**
- Developed a full-stack data visualization platform using React, featuring a customizable dashboard and secure user authentication for tailored access to charts and analytical tools.
- Built scalable microservices with Node.js, Express, and MongoDB to manage user preferences, chart configurations, and real-time data retrieval.
- Integrated CI/CD pipelines with Jenkins to automate testing and deployment of microservices, reducing release cycle time and ensuring reliable feature delivery.

Projects

Jan 25 - Present **Litecoin Whale Watcher** (Python, PostgreSQL, AWS EC2, Docker, Nginx, Node.js, Express)
- Built a full-stack crypto analytics tool that tracks activity from the top 200 Litecoin addresses.
- Automated whale transaction detection using Python and APIs, sending alerts to a Telegram channel.
- Containerized and deployed a PostgreSQL database with Docker on AWS EC2 to persist and query wallet transaction data.

Skills

Languages, Frameworks, and Tools:
Java, Python, JavaScript, TypeScript, HTML, CSS, Angular, React, Next.js, Spring Boot, Express.js, Node.js, Vega-Lite, PostgreSQL, MongoDB, Cassandra, Cosmos DB, RabbitMQ, SQS, REST APIs, Webhooks, Splunk, Git, GitHub, Jenkins, Docker, NGINX, CI/CD Pipelines

Cloud, DevOps, and Architecture:
AWS (Lambda, S3, Cognito, API Gateway, EC2, DynamoDB, SES, Amplify), Azure (Functions, Cosmos DB), Serverless Architecture, Cloud Architecture, Solutions Architecture, Microservices, Micro-Frontend Architecture