Matthew Flesher

(609) 661-1649 | mrfleshe@umich.edu | Atlantic City, NJ 08401 |
https://matthewflesher.com | www.linkedin.com/in/matthew-flesher-277a8542

PROFESSIONAL SUMMARY

Senior Software Engineer with 10+ years of experience in full stack development of distributed systems. Expertise in building microservices and serverless functions, designing scalable, resilient, cloud-native systems, creating efficient and well tested deployment pipelines, and implementing advanced data management strategies to ensure efficient storage, retrieval, and processing of large-scale datasets, while maintaining data integrity and security. Known for strong problem-solving, team leadership, and delivering high-impact, production-grade software across regulated industries.

EXPERIENCE

Federal Aviation Administration (FAA) - Atlantic City, NJ   August 2014 – Present
Senior Software Engineer | Test Director

- Architected scalable microservices using Node.js, Python, Flask, Java, and Spring Boot to improve modularity and system reliability.
- Engineered cloud-native platforms on Kubernetes and Docker, meeting high-availability requirements under FAA SLAs.
- Designed and optimized PostgreSQL and MongoDB databases, ensuring performance and data integrity through advanced schema and indexing strategies.
- Collaborated with cross-functional teams, including FAA regulators and project managers, to align technical solutions with operational requirements, ensuring compliance and stakeholder buy-in for 10+ mission-critical aviation systems.
- Delivered technical presentations to FAA leadership and external stakeholders, translating complex system architectures into actionable insights, driving approval for 5+ modernization initiatives.
- Fostered a culture of collaboration by mentoring 8+ junior engineers and leading bi-weekly knowledge-sharing sessions on cloud-native best practices, improving team productivity.
- Integrated observability tooling (Prometheus, Grafana) and AWS services for real-time monitoring of mission-critical aviation systems.
- Automated CI/CD pipelines with Jenkins, Gitlab, and GitHub Actions, validated backend consistency using SQL, and reduced deployment times by 60%.
- Spearheaded modernization of legacy aviation platforms using Kubernetes, Terraform, and Ansible, achieving 99.995% uptime.
- Delivered 20+ serverless microservices with Node.js and AWS Lambda, supporting aviation applications via RESTful and GraphQL APIs.
- Designed high-throughput Kafka-based messaging systems processing 10K+ messages/sec, enabling real-time data streaming.
- Built predictive ML models leveraging historical weather and flight data to forecast delays, enhancing operational planning.

ADDITIONAL EXPERIENCE

Software Engineer - Intern, Honeywell, Mt. Laurel, NJ, June 2014 - August 2014
Collaborated on C code repurposing for a smartwatch prototype.

MILITARY SERVICE

Bulk Fuel Specialist, US Marine Corps Reserves, Fort Lewis, WA, September 1997 - August 2001
Strengthened leadership, discipline, and operational readiness in high-pressure environments, ensuring compliance for mission-critical systems.

SKILLS

Languages: Java, Python, C, C++, C#, JavaScript, HTML, CSS
Frameworks & Libraries: Spring, Flask, .NET, React, Angular, NodeJS
Cloud Platforms: AWS, Azure, Google Cloud Platform
DevOps & CI/CD: Docker, Kubernetes, Jenkins, GitLab, GitHub Actions, Terraform, Ansible, Chef
Databases: PostgreSQL, MongoDB, SQL, NoSQL, Elasticsearch
Messaging & Streaming: Kafka, ActiveMQ, RabbitMQ
Monitoring & Logging: Prometheus, Grafana, Kibana, FluentD
Testing & Automation: Automation Testing, Functional Testing, Performance Testing
Others: Git, Maven, REST, GraphQL, API Development, Serverless, Microservices

EDUCATION

Master of Science, Computer Engineering   Sep 2016 - Dec 2019
University of Michigan – Dearborn
GPA 3.69

Bachelor of Science, Computer Science   Sep 2012 - May 2015
Stockton University
GPA 3.77 – Cum Laude

VOLUNTEER WORK

12 Inch Tails – A South Jersey Cat Rescue - Atlantic City, NJ   July 2022 - Present
Volunteer Web Application Developer | Board Member
Developed cloud-native application with React and AWS Serverless to streamline shelter operations and increase public engagement.

CERTIFICATIONS

LambdaTest Test Automation Professional Certificate   Aug 2023