

# Thomas Marklin Pappas

Senior Software Engineer | Python, Django, Fast API, React, AWS, Azure

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## PROFILE

Senior Full Stack Developer with 12 years of experience building scalable web applications using Python, Django, Flask, FastAPI, and modern front-end frameworks like React. Skilled in designing and developing robust APIs, microservices, and cloud-based solutions on AWS. Experienced in Agile methodologies, CI/CD pipelines, and DevOps practices to streamline development and deployment. Passionate about writing clean, maintainable code and delivering high-performance, enterprise-grade solutions.

**Back-End Development:** Python, Django, Flask, FastAPI, SQLite, SQLAlchemy, C++, Java, RESTful API design, Microservices architecture, WebSockets, Celery, JWT, Clean Architecture, Domain-Driven Design (DDD).

**Front-End Development:** JavaScript, Angular, React, TypeScript, Redux, RxJS, Context API, HTML5, CSS3, Bootstrap, Material UI.

**Database Management:** PostgreSQL, MySQL, SQL Server, DynamoDB, MongoDB, Firestore, Query Optimization, Indexing, Partitioning, Stored Procedures.

**Tools & DevOps:** Docker, Kubernetes, Jenkins, TeamCity, CircleCI, Terraform, Infrastructure-as-Code (IaC),

**Cloud Services:** AWS (Lambda, ECS, EKS, DynamoDB, SNS, SQS, API Gateway, RDS, S3, CloudWatch), GCP (Cloud Functions, Firebase, Pub/Sub, Cloud SQL), Kubernetes, Docker, Terraform, Jenkins, GitHub Actions, CI/CD Pipelines

**Testing & Security:** Unit & Integration Testing (PyTest, unittest, Jest, Cypress, Selenium), API Testing (Postman, Swagger), Authentication & Authorization (OAuth2, OpenID Connect, JWT, RBAC).

## WORK EXPERIENCE

### Senior Software Engineer – Robert Half

Feb 2024 – Present

Menlo Park, CA - Remote

Contributed to the development of technology-driven solutions that enhance homebuilding and interior design processes, optimizing digital workflows and automation to improve efficiency and customer experience in construction and real estate services.

- Architecting and developing highly scalable, high-performance microservices using Django and FastAPI, applying clean architecture and domain-driven design (DDD) principles to ensure modularity and maintainability across the system.
- Designing and integrating robust and efficient RESTful and GraphQL APIs that facilitate seamless communication between multiple internal services, third-party platforms, and financial systems, improving workflow automation and data consistency.
- Managing and optimizing PostgreSQL and DynamoDB, implementing query performance tuning techniques, indexing strategies, and event-driven architectures with AWS SNS and SQS to maintain real-time data processing and reliability.
- Spearheading the modernization of front-end applications by migrating legacy UI components to React, leveraging Redux and Context API for optimized state management, and ensuring an improved user experience.
- Automating the CI/CD pipeline using GitHub Actions, streamlining the deployment process through containerized microservices with Docker and Kubernetes, while enforcing infrastructure-as-code (IaC) practices through Terraform for scalability and efficiency.
- Enhancing security measures by implementing OAuth2, JWT authentication, role-based access control (RBAC), and API gateway security policies, ensuring compliance with security best practices and industry standards.
- Collaborating closely with cross-functional teams, engaging in Agile Scrum ceremonies, participating in sprint planning, conducting detailed code reviews, mentoring junior developers, and contributing to strategic technical decisions to drive innovation.

### Senior Full Stack Developer – GlobalLogic

May 2020 – Dec 2023

Santa Clara, CA - Remote

Developed and optimized fleet and field service management solutions, focusing on real-time GPS tracking, telematics, vehicle diagnostics, and workflow automation to improve fleet efficiency, driver safety, and operational cost reduction

- Designed and developed cloud-native microservices utilizing FastAPI and Flask, implementing event-driven architectures to process high-volume telematics data from GPS devices and IoT sensors efficiently.
- Built and optimized RESTful and gRPC APIs to facilitate seamless data exchange between fleet tracking applications, customer dashboards, and third-party logistics software, significantly improving system responsiveness and data accuracy.
- Developed a highly responsive real-time vehicle tracking system using WebSockets and Celery, allowing instant location updates, geofencing alerts, and live telemetry streaming for thousands of connected vehicles.
- Engineered data ingestion pipelines using Kafka and AWS Kinesis, processing and aggregating large-scale GPS and telematics data streams in real-time, reducing latency and improving overall system reliability.
- Created dynamic and interactive fleet management dashboards using React, integrating real-time data visualizations, interactive maps, and historical analytics tools to enhance user experience and operational decision-making.
- Optimized PostgreSQL and DynamoDB databases to handle telematics data efficiently, employing indexing strategies, partitioning, and time-series data optimizations to boost analytics performance.

- Implemented automated CI/CD pipelines with AWS CodePipeline and Kubernetes, enabling streamlined deployments of containerized microservices across multiple cloud environments with minimal downtime.
- Improved driver safety and compliance monitoring by leveraging AI-powered predictive analytics models, detecting driving anomalies such as harsh braking, speeding, and idling, which helped reduce fuel consumption and fleet maintenance costs.

## Software Engineer – Inzo Software Inc

Jun 2015 – May 2020

Plant City, FL

Engineered custom enterprise software solutions, focusing on scalability, automation, and data security to empower businesses with advanced workflow management and digital transformation tools.

- Designed, developed, and maintained custom enterprise-grade software solutions using Django and Flask, deploying scalable, high-performance applications on AWS cloud infrastructure to ensure reliability and efficiency.
- Led the migration of legacy monolithic applications to a microservices architecture, utilizing Docker and Kubernetes to break down tightly coupled systems into independently deployable services, improving flexibility and maintainability.
- Developed and integrated robust RESTful APIs that facilitated smooth data exchange between internal systems, third-party ERP/CRM platforms, and external business partners, enhancing interoperability and process automation.
- Built sophisticated React-based front-end applications, refactoring legacy UI components, implementing Redux for efficient state management, and optimizing UI/UX performance through strategies like lazy loading and dynamic component rendering.
- Designed and optimized PostgreSQL databases, leveraging indexing, partitioning, and query optimization techniques to handle large-scale transactional data effectively.
- Engineered event-driven architectures using RabbitMQ, migrating from Azure Service Bus to AWS messaging services such as SQS and SNS to enable asynchronous processing of critical workflows, notifications, and job scheduling.
- Enforced stringent security protocols by implementing role-based access control (RBAC) and JWT authentication, ensuring secure API interactions and compliance with data security best practices.
- Developed automated CI/CD pipelines with Jenkins and AWS CodeDeploy, streamlining software deployment, testing, and monitoring processes, significantly reducing time-to-market for new features and bug fixes.

## Software Engineer – Infotech

Nov 2013 – May 2015

Gainesville, FL

Built and enhanced software solutions for the infrastructure and construction industries, improving bidding processes, project management, and regulatory compliance to support public and private sector development projects.

- Designed and built scalable web applications using Python, Django, and JavaScript, implementing dynamic and responsive UIs with Bootstrap and AJAX to improve user interaction and experience.
- Developed and optimized PostgreSQL database schemas, creating stored procedures, complex views, and indexing strategies to ensure efficient data retrieval and transaction processing.
- Migrated legacy desktop applications to modern web-based solutions, transitioning VB.NET-based systems to Django applications to improve maintainability and accessibility.
- Created custom reporting solutions using SQL Server Reporting Services (SSRS), automating financial, project, and compliance reports for government and enterprise clients, improving reporting efficiency.
- Enhanced system performance by profiling Django applications, refactoring inefficient business logic, resolving memory leaks, and implementing multi-threading to boost application responsiveness.
- Designed and implemented secure authentication and authorization mechanisms, ensuring data integrity and compliance with regulatory standards.
- Collaborated with cross-functional teams, including business analysts, QA engineers, and DevOps specialists, to define requirements, develop robust software solutions, and deliver high-quality products on time.

## EDUCATION

### University of Florida – Bachelor of Computer Science

2009 - 2013

Gainesville, FL

## CERTIFICATIONS

Meta Full Stack Developer Certificate  
WS Certified Solutions Architect  
Python Programming Specialist  
Problem Solving Certificate

Coursera  
AWS  
Oracle  
HackerRank