Thomas Diaconu

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Skills

Programming: Python, TypeScript (Angular, React), Java, SQL, Bash, Git
Core CS: Algorithms, Data Structures
Cloud & Infrastructure: AWS (EC2, S3, Lambda, IAM, CloudWatch, Bedrock), Docker, CI/CD, observability, security architecture
AI Engineering: LLMs, RAG, prompt engineering, agents (Strands, CrewAI), Classical ML
Languages: French (native), English (fluent, IELTS 7), Romanian (bilingual), German (intermediate)
Hobbies: Tennis, Chess, Reading

Experience

Amazon Web Services (AWS)   Jan 2023 – Present
Software Development Engineer II   *Paris, France*

- Led end-to-end AI-assisted modernization of 100k+ LOC COBOL systems into DDD microservices (Java/Angular), orchestrating custom and IDE-integrated AI agents for transformation, validation, and integration.
- Technical lead on modernization of a 5M+ LOC AS400 COBOL platform into a distributed architecture (Java Spring Boot, Angular, PostgreSQL, AWS), delivering maintainable production code with high quality standards, JaCoCo reporting, and 100+ E2E tests.
- Designed and implemented a batch-processing platform using message brokers (RabbitMQ, IBM MQ, SQS), Quartz-based scheduling with persistent DB state, and a frontend control panel for start/stop/hold operations, status monitoring, and schedule management.
- Reduced critical database query latency from 30 seconds to under 1 second by introducing indexing and views, then validating scalability with JMeter load testing.
- Built and integrated agentic GenAI tooling: automated code-quality remediation (about 1.5k bugs/code smells fixed in around 1 hour), an agentic AI tool that auto-builds applications to prevent CI/CD breaks, and a Playwright-based agent for exploration and test generation on stateful modern applications.
- Designed an AI agent to translate C code to Java; transformed 50+ programs and reduced conversion effort from days to hours.
- Led a 2-month security review for an isolated AWS environment handling sensitive customer code; delivered threat modeling and 15+ security improvements across IAM, networking, proxying, and observability.

Paprec   Oct 2021 – Dec 2022
Software Development Engineer   *Paris, France*

- Led development of a new internal payroll platform with Python, Go, Angular, and Docker; implemented 10+ screens and 5+ REST APIs, and contributed to a high-performance wage computation engine.
- Built an image annotation and waste prediction platform using classical ML and Python pipelines; doubled labeling throughput and enabled annotation of 10k+ images.
- Delivered a waste classification solution using Python, TensorFlow, and OpenCV; evaluated a pre-trained R-CNN (81% global precision, 53% F1-score), implemented YOLO, and identified overfitting through train/test performance analysis.

Sopra Banking Software   Feb 2021 – Aug 2021
Artificial Intelligence Intern   *Paris, France*

- Developed machine learning algorithms for investment profiling in a psychography context.
- Designed and implemented 10+ REST APIs for an online banking proof of concept and implemented a reverse proxy layer.

Paprec (Freelance, During Studies)   Summers 2019, 2020
Frontend Developer (Angular)   *Paris, France*
Served as main frontend developer on two production Angular web applications and presented outcomes to General Management.

Education

MSc in Data Science and Engineering Eurecom, Nice (France), GPA: 3.6/4.0   2019 – 2021
Machine Learning, Deep Learning, Optimization, Software Engineering

MSc in Engineering, IMT Atlantique, Brest (France)   2018 – 2021
Programming, Mathematics