

## Andrea Valente, PhD

AWS Solutions Architect & Data Scientist | Cloud Consultant

📍 Nicosia, Cyprus | ✉ valentea78@gmail.com | ☎ +357 96732397 | 🇮🇹 Italian | 🔗  
[[LinkedIn](#), [Github Page](#), [Consulting Website](#)]

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## Professional Summary

I am an AWS Certified Solutions Architect with a deep background in data science. My passion is helping startups and businesses build intelligent, scalable, and cost-effective cloud solutions. I bridge the gap between robust infrastructure and data-driven insights, ensuring your platform is not only secure and resilient but also optimized for performance and cost from day one. My unique value comes from combining infrastructure-as-code best practices with a strategic understanding of data pipelines, machine learning workloads, and analytics.

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## Certifications

- **AWS Certified Solutions Architect – Associate**
  - **Data Science MicroMaster (UC San Diego, EdX)**
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## Technical Skills

- **Cloud:** AWS (EC2, S3, Lambda, CloudFormation, Terraform, IAM, RDS, DynamoDB, AWS Glue, Athena, API Gateway, Cognito, Amplify, Route 53, Amazon Bedrock, SQS)
  - **Programming:** Python (FastAPI, Pandas, Scikit-learn), SQL
  - **Machine Learning:** NLP (FastText, Transformers), XGBoost, Random Forest, Regression
  - **DevOps:** Git, Jira, Cloud Deployment (Azure, AWS)
  - **Data Visualization:** Power BI, Tableau
  - **Other:** Java (basic), Technical Writing, Data Pipeline Optimization
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## Professional Experience

### AWS Solutions Architect | Freelancer

Nov 2024 – Present

- Architected and implemented end-to-end serverless solutions on AWS, utilizing Lambda, API Gateway, DynamoDB, and S3 to build scalable and cost-effective applications.
- Developed and deployed containerized applications using Docker, AWS ECS, and AWS CDK, automating the entire lifecycle from code to production.
- Engineered a Generative AI-powered RAG system with Amazon Bedrock, demonstrating the ability to build and integrate modern AI/ML solutions into cloud applications.
- Championed Infrastructure as Code (IaC) best practices using Terraform and AWS CDK to ensure consistent, automated, and secure environment provisioning.

**Proddis LTD**, Limassol, Cyprus

**Senior Data Scientist | Cloud developer** *Feb 2023 – Jun 2024*

- Developed and deployed a **Medical Encoder** for adverse event classification, integrating **FastText** and **LLMs** with cloud-hosted APIs.
- Streamlined workflows for productionizing machine learning models using **FastAPI**.
- Initiated cloud-based deployments adhering to best practices, bridging product management and technical execution.

**Bottomline Technologies**, Reading, UK

**Data Scientist** | *Jan 2020 – Feb 2023*

- Designed and deployed an **Anomaly Detection** model for financial transactions using Python.
- Spearheaded **White Space Analysis** to drive upselling strategies, improving data pipelines and ML-based recommendations.
- Collaborated with DevOps teams to transition models into scalable, cloud-based solutions.

**Tesco Mobile**, Slough, UK

**Data Scientist** | *Nov 2018 – Jan 2020*

- Built the company's first **customer churn prediction model** using R, enhancing retention strategies.
- Optimized SQL pipelines for data analysis, supporting the company's analytics roadmap.

**Cognizant**, London, UK

**Data Scientist** | *Apr 2016 – Oct 2018*

- Led development of an **XGBoost ML model** for aircraft stand allocation at Heathrow Airport, deployed on **Azure**.
- Built an **operations dashboard** in **Power BI** to monitor key metrics, integrating real-time data feeds and actionable insights.

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## Selected Projects

- Developed and launched a web-based civic tool for reporting illegal waste across Cyprus, built entirely on AWS using a fully **serverless** architecture. Features include geotagged photo uploads, Google login via **Cognito**, interactive heatmaps, and real-time reporting powered by **Lambda**, **API Gateway**, **S3**, and **DynamoDB**.
  - Designed, deployed, and automated the hosting of my consulting website on AWS, integrating S3, **CloudFront**, **Route 53**, and **ACM** with CI/CD via **GitHub Actions**. Implemented a professional, scalable infrastructure to showcase services for startups and small businesses
  - Developed a fully containerized **FastAPI application** deployed on **AWS ECS (EC2 launch type)** with an **S3**-hosted web UI. Automated infrastructure using **AWS CDK** and integrated Docker, ECS, and S3 to build a scalable cloud application for analyzing running activity data
  - **Medical Encoder** (*Proddis LTD*): Automated adverse event classification leveraging **LLMs**, implemented cloud-based deployment.
  - **Anomaly Detection for Payments** (*Bottomline Technologies*): Full-stack ML solution coded in Java and Python for fraud detection.
  - **Aircraft Stand Allocation Prediction** (*Cognizant*): Developed and deployed an ML model in Azure for operational efficiency at Heathrow Airport.
  - **Heathrow Operations Dashboard** (*Cognizant*): Designed a comprehensive **Power BI** dashboard to monitor airport operations.
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## Education

PhD in Cognitive Neuroscience, University of Geneva, CH | Jan 2014

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## Languages

Italian (native), English (fluent), French (fluent)