JUSTINE OBIAZI

(541) 250 - 7517 | Vancouver, WA | justineobiazi.com | LinkedIn

Highly motivated and results-oriented Solutions Architect with a strong foundation in designing, implementing, and managing robust cloud infrastructure on AWS. Proven expertise in containerization (Kubernetes, Docker), infrastructure as code (Terraform), and serverless architectures. Demonstrated ability to translate business requirements into scalable, cost-effective, and secure cloud solutions. Experience in front-end development (Vue.js) and implementing real-time data analytics. Passionate about driving cloud adoption and optimizing application performance and scalability.

RELEVANT COURSEWORK

Coursework: Machine Learning, Causal Inference For AI, Probabilistic Graphical Models, Optimization in Water Resources Engineering, Applied Machine Learning, Methods of Data Analysis.

SKILLS

AWS Services: EKS, EC2, S3, Lambda, CloudFront, Route 53, DynamoDB, SQS, Redshift, IAM, VPC, RDS
DevOps & Infrastructure: Terraform, Docker, Kubernetes, CI/CD (GitHub Actions), Infrastructure as Code Programming
Languages: Python, JavaScript, Vue.js, R, Django, Flask
Databases & Analytics: DynamoDB, Redshift, MongoDB, SQL**, BigQuery, RDS
Machine Learning & AI: AWS Bedrock, Amazon SageMaker, TensorFlow, PyTorch, Computer Vision, NLP, VertexAI

EDUCATION

M.Sc., Civil Engineering – *Oregon State University (2024)*
BSc, Civil Engineering – *Covenant University*

PROFESSIONAL EXPERIENCE

Graduate Research Assistant, Oregon State University   **2022 - 2025**

- Collaborated on the development of the interactwel.org web application, utilizing Vue.js for front-end development and user interface enhancements.
- Deployed and managed application components on Kubernetes, contributing to the platform's scalability and reliability in a production environment.
- Developed and executed complex SQL queries for data extraction and analysis of large datasets, contributing to research outcomes.
- Designed and implemented machine learning methodologies for analyzing stream temperature data, leveraging Python-based pipelines and cloud storage (GCP).
- Processed and managed large datasets (over 100 million records) using BigQuery and GCP cloud storage.

Data Scientist, Kobo360 Logistics Company   **2021 – 2022**

- Spearheaded data collection and rigorous data cleansing efforts for transport data across six African countries within Kobo360's operational scope.
- Employed AWS Redshift for the efficient ingestion of meticulously cleaned data into the database, supporting data analysis endeavors.
- Applied advanced statistical and machine learning techniques to conduct in-depth data analysis, providing valuable insights into various aspects of the transportation industry.
- Developed and fine-tuned supervised predictive models to calculate trip prices based on an array of metrics and features, enhancing pricing accuracy.

PROJECTS

Event-Driven Data Warehouse Solution
2023

- Architected a scalable event-driven data processing system for real-time analytics on transportation data
- **Technical Implementation:**
  - Designed decoupled architecture using AWS SQS for message queuing between data producers and consumers

- o Implemented automated data ingestion from SQS to S3 data lake using Lambda functions
- o Created ETL processes to transform raw data for analysis in Redshift data warehouse
- o Developed custom SQL queries and views for business intelligence reporting
- **Outcomes:** Reduced data processing time by 65% and enabled real-time analytics for business decision-making

Personal Website on AWS EKS (justineobiazi.com)

2024

- Architected and implemented a highly available and scalable personal website showcasing a professional portfolio and technical skills, leveraging AWS EKS for container orchestration.
- Infrastructure as Code: Provisioned and managed the entire AWS infrastructure using Terraform, ensuring repeatable, version-controlled, and auditable deployments. This included EKS clusters, EC2 instances (initially), networking (VPC), and security groups.
- Scalability and High Availability: Migrated the production environment from EC2 instances to EKS to enhance scalability and resilience in response to anticipated traffic growth.
- Content Delivery and DNS: Implemented CloudFront CDN to optimize content delivery speed and global reach, integrated with Route 53 for efficient domain management and DNS routing.
- Real-time Analytics: Developed a near real-time visitor tracking system using S3 event triggers to asynchronously update a DynamoDB table, providing insights into website traffic and engagement.
- Cost Optimization: Transitioned static content delivery to S3 with CloudFront, optimizing costs for serving non-dynamic assets.
- CI/CD Pipeline: Established automated deployment pipelines using GitHub Actions, including container registry integration and a blue/green deployment strategy for seamless updates.

Conversational AI Assistant using AWS Bedrock

2024

- Designed and implemented an intelligent chatbot using AWS Bedrock and Claude AI model to assist with customer inquiries
- **Technical Details:**
  - o Leveraged AWS Bedrock for foundation model access and inference
  - o Integrated with custom knowledge base for domain-specific queries
  - o Implemented user feedback loops for continuous model improvement
  - o Deployed using serverless architecture (Lambda, API Gateway) for cost efficiency
- **Results:** Automated response to 75% of routine customer inquiries, reducing support team workload while maintaining high customer satisfaction

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CERTIFICATIONS

- **Oracle Cloud Infrastructure 2024 Generative AI Professional**
- **2023 AGAID Digital AgAthon Participant**
- **Microsoft Certified: Azure Data Science Associate**
- **Microsoft Certified: Azure Data Engineering Associate**
- **AWS Certified Cloud Practitioner**
- **AWS Certified Solutions Architect - Associate**
- **GCP Professional Data Engineer**
- **Hashicorp Certified: Terraform Associate (003)**