Antony Ibrahim

Irvine, CA

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Education

University of California, Irvine   Sep. 2021 – June 2025
Bachelor of Science in Software Engineering   *Irvine, CA*

Relevant Coursework: Data Structures and Algorithms, Principles of Operating Systems, Computer Networks, Software System Design, Programming in C/C++, Object-Oriented Programming in Python, Large-Scale Software Engineering, Information Retrieval, Internet Applications Engineering.

Experience

Genesis Healthcare   Sep. 2024 – Present
Software Engineer   *Irvine, CA*
MedTech company that powers cutting edge genomic science services, testing, and research platforms using AI.

- Optimized multi-database ETL (Extract, Transform, Load) pipeline that processed over **21 million rows**, reducing runtime from **2 hours to 15 minutes (88 percent faster)**.
- Automated cloud-database deployments and **AWS S3** backups with **Python**, saving **2 hours per release**, and implemented **CI/CD pipelines** with GitHub Actions and AWS Lambda.
- Deployed two enterprise chatbot instances used by external marketing partners, powered by vector search leveraging **AWS Bedrock**, **Claude 3.5 Sonnet**, and **OpenAI GPT-4o**.
- Reduced monthly infrastructure cost by **85 percent** (from $300+ to $40) by migrating Metabase analytics from Azure VM to a self-hosted **AWS EC2** instance with VPC firewall rules.

Genesis Healthcare   June 2024 – Sep. 2024
Software Engineer Intern   *Tokyo, Japan*

- Refactored 5,000+ lines of code in a data pipeline from Ruby to Python, **reducing runtime by 35 percent** and enabling faster extraction of genomic data from 4 production databases.
- Co-authored a published research paper (*Comparative Genomic Analysis of Sloth vs. Human, Genes 16(3):272*) by automating a **100GB+ RNA-seq** data pipeline using **Python** and **DESeq2**.
- Provisioned a secure **JupyterHub** environment on **AWS EC2**, enabling 3 enterprise partners to analyze datasets under VPC-based restrictions.
- Enhanced security compliance by enforcing **AWS IAM roles** and multi-factor authentication across all accounts.

Projects

Full-Stack Pokemon Card Marketplace | *React, Express.js, Node.js, MongoDB, Google OAuth*   **May 2022 – Aug 2022**

- Collaborated in a team of 4 to build a full-stack web app enabling users to browse, filter, and manage Pokemon card collections.
- Developed a searchable marketplace with advanced filters and personalized watchlist and portfolio features, enabling users to efficiently discover and track items of interest.
- Integrated **Google OAuth** for authentication and linked cards to external sites, enabling users to securely log in and make direct purchases.
- Built RESTful APIs to handle user data, card information, and collection updates, enabling seamless data retrieval and management across the platform.
- Designed a responsive UI with dynamic modals and real-time updates using **React** and **TailwindCSS**, improving user interaction and accessibility across devices.

Technical Skills

Languages: C++, Python, Java, JavaScript, SQL, HTML, CSS, TailwindCSS
Technologies: AWS, Unix, Git, React, Node.js, Express.js, MySQL, PostgreSQL, Amazon Aurora, MongoDB, RESTful API
Developer Tools: VS Code, Visual Studio, JupyterHub, Metabase, Docker, Apache Airflow
Libraries: Pandas, NumPy, DESeq2, Bedrock Vector Search