

# Antony Ibrahim

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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, Operating Systems, Database Management Systems (SQL/NoSQL), Distributed Systems, Agile Software Development, Web Applications (React, Angular, Vue)

## Experience

### Genesis Healthcare

Sep. 2024 – Present

Software Engineer

Irvine, CA

- Optimized multi-database ETL (Extract, Transform, Load) pipeline that processed over **21 million rows**, reducing runtime from **2 hours to 15 minutes (88% 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 enterprise chatbot systems used by marketing partners, powered by vector search leveraging **AWS Bedrock**, **Claude 3.5 Sonnet**, and **OpenAI GPT-4o**.
- Reduced monthly infrastructure costs by **85%** (from \$300+ to \$40) by migrating Metabase analytics from Azure VM to a self-hosted **AWS EC2** instance with VPC firewall rules.

### Genesis Healthcare

Jun. 2024 – Sep. 2024

Software Engineer Intern

Tokyo, Japan

- Refactored 5,000+ lines of data pipeline code from Ruby to Python, **reducing runtime by 35%** and improving extraction speed from production genomic databases.
- Automated a **100GB+ RNA-seq** pipeline using **Python** and **DESeq2**; co-authored published research in [Genes 16\(3\):272, 2025](#).
- Provisioned a secure **JupyterHub** environment on **AWS EC2**, enabling enterprise partners to analyze datasets within VPC-based restrictions.
- Enhanced security compliance by enforcing **AWS IAM roles** and multi-factor authentication across all accounts.

## Projects

### Full Stack Pokemon Card Marketplace

Apr 2025 – Jun 2025

React, TypeScript, Node.js, Express.js, MongoDB, TailwindCSS

- Collaborated with a team of 4 to design and develop a full-stack web platform for browsing, filtering, and managing Pokemon card collections.
- Implemented a **searchable marketplace** with advanced filters, personalized watchlists, and portfolio tracking to improve item discovery and engagement.
- Integrated **Google OAuth 2.0** authentication and external APIs to enable secure user logins and direct card purchases.
- Developed and deployed **RESTful APIs** using Node.js and Express.js, and created type-safe components in **TypeScript** to enhance maintainability and reduce runtime errors.
- Designed a responsive front-end with **React** and **TailwindCSS**, improving user experience and accessibility across devices.

## Technical Skills

**Languages:** C++, Python, C#, Java, JavaScript, TypeScript, SQL, HTML, CSS, TailwindCSS, MySQL, PostgreSQL

**Technologies:** AWS, .NET, Vue, Angular, Linux, Git, React, Node.js, Express.js, Amazon Aurora, MongoDB, RESTful API

**Developer Tools:** VS Code, Visual Studio, JupyterHub, Metabase, Docker, Apache Airflow

**Libraries:** Pandas, NumPy, DESeq2, Bedrock Vector Search