

# 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, Operating Systems, Computer Networks, Database Management Systems (SQL/NoSQL), Distributed Systems, Cloud Computing (AWS), Software System Design, Web Applications (React/TypeScript).

## 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, TypeScript, Express.js, Node.js, MongoDB

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 with **Node.js** and implemented type-safe components using **TypeScript**, improving code maintainability and reducing runtime errors.
- 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, C#, Java, JavaScript, TypeScript, SQL, HTML, CSS, TailwindCSS

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

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

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