Allen Abraham

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Professional Summary

Highly motivated NYU Computer Science Master's graduate (GPA 3.96) with 3 years of experience in software and data engineering, adept in Python, Java, Go, Haskell and distributed systems with a proven ability to optimize processes, develop scalable solutions, and lead high-impact projects.

Education

Master of Science in Computer Science | *New York University*   **05/2025**
GPA: 3.96/4.0

Bachelor of Engineering in Computer Science | *Visvesvaraya Technological University*   **06/2021**
GPA: 8.33/10.0

Work Experience

New York University | *Course Assistant*   **01/2024 - 05/2025**
- Developed assignment solutions for Operating Systems, supported over 100 students in weekly office hours, and graded their submissions.

Firebird Music | *Data Engineer Intern*   **06/2024 - 08/2024**
- Developed an Airflow DAG to incrementally load data from an S3 bucket into partitioned BigQuery tables, reducing ingestion time by 99.8% and saving $10K per year by eliminating full table refreshes.
- Analyzed and interpreted social media images for over 50,000 artists in our roster using GPT-Vision API, identifying engagement trends that informed the marketing team's content strategy and guided artists on image-driven improvements.

Juspay | *Software Engineer*   **11/2020 - 07/2023**
- Optimized gateway scoring service by implementing Groovy-based algorithms, increasing customer success rates by up to 30%.
- Owned the refunds vertical, introducing features such as a Redis-based distributed producer–consumer workflow, refund sub-status tracking, and unified HTTP error handling—scaling to process over 1 million refunds with a median transaction amount of 5,000 INR.
- Built Prometheus/ClickHouse dashboards for real-time metric analysis, maintaining 98% refund success & 99.999% uptime, slashing debug/incident response times (hours to minutes), and aiding cross-functional product architecture improvements.
- Led backend development in Haskell and Groovy for refund features and gateway integrations, mentoring new interns and engineers; migrated code from JavaScript to Haskell, cutting costs by 95% while maintaining resilience under strict deadlines.
- Designed and maintained a microservices-based distributed system processing 100M+ daily transactions implementing fault-tolerance patterns and load balancing strategies to maintain 99.999% uptime

Indian Institute of Technology, Bombay | *Research Intern*   **05/2020 - 06/2020**
- Researched and implemented deep learning techniques for 3D point cloud segmentation using TensorFlow, enhancing accuracy and efficiency in complex geometric analyses.

Publications

A. N. Krishna, Y. L. Chaitra, Atul M. Bharadwaj, K. T. Abbas, **Allen Abraham**, Anirudh S. Prasad, *"Real-time Machine Vision System for the Visually Impaired"*, Springer Nature, (DOI: 10.1007/s42979-024-02741-4)

Projects

eYantra Robotics Competition (by Indian Institute of Technology, Bombay) | *Winner and Team Leader*   **04/2021**

- Led our robotics team to 1st place among 1,050 teams in a national competition, integrating real-time technology, maze traversal algorithms, image recognition, robotics design, electronics, and machine learning.

Real time video recommender and analyzer | *Lead Programmer*   **04/2024**

- Led a three-person team to design and implement a scalable Big Data pipeline using Apache Kafka and Apache Spark for real-time streaming and large-scale analysis; created Dockerized environments and data ingestion scripts to streamline deployment and efficiently process large datasets.

Real time collaborative drawboard | *Backend Engineer*   **12/2024**

- Built a real-time collaborative drawboard using Java, Spring Boot, WebSockets & Swing, enabling concurrent user interaction and Gradle.

Save For Later
- Created and maintained an open-source Google Chrome extension (Save for Later), reaching 15,000+ total installations and sustaining a 4.8-star user rating

Skills

Languages: *Python, C++, Go, Haskell, Java, Groovy, JavaScript*

Technologies: *Git, Linux, SQL, Redis, REST API, TensorFlow, AWS, Docker, Microservices, Object-Oriented Programming*

Software Development: *Agile methodology, Automated Testing, Scalable System Design, Real-time Systems*