

# ANUSHA SHIVA KUMAR

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## EDUCATION

### University of Pittsburgh

Master of Science in Information Science

### M S Ramaiah Institute of Technology

Bachelor of Engineering in Computer Science

Pittsburgh, PA

April 2025

Bangalore, India

April 2022

## SKILLS & INTERESTS

**Programming & Frameworks:** Java, Python, C++, React.js.

**Distributed Systems & Databases:** MySQL, PostgreSQL, Scalable Database Design, RESTful APIs.

**CS Fundamentals:** Data Structures, Algorithms, Object-Oriented Programming (OOP), Performance Optimization.

**Cloud & Tools:** AWS Redshift, Docker, Kubernetes, Fault-Tolerant Systems, Flask, Bootstrap, TensorFlow, PyTorch.

## RELEVANT EXPERIENCE

### Responsible Data Science Course Facilitator

University of Pittsburgh School of Computing and Information

Pittsburgh, PA

Aug 2024 - Present

- Managed and mentored **150 master's students**, providing guidance on **complex data science** topics and resolving queries through **Salesforce**.
- Grade assignments and provide detailed feedback, using course analytics to implement data-driven strategies that improve student learning and engagement.

### Graduate Research Assistant

University of Pittsburgh School of Health and Rehabilitation Sciences

Pittsburgh, PA

July 2024 - Present

- Conduct **social science research** focused on improving well-being by applying **machine learning techniques** to analyze large datasets, **enhancing the research's impact**.
- Perform data manipulation, statistical analysis, and data visualization using **SPSS, Excel, and Tableau** to extract insights from complex datasets, while currently **working on a research paper** leveraging the **Athena Health Dataset**.

### Data Analyst

FedEx Ground

Pittsburgh, PA

Jan 2024 - May 2024

- Developed actionable insights using **Excel, Tableau, and Python** to address inefficiencies in service thresholds, improving operational efficiency and **reducing delivery delays by 15%**.
- Collaborated with **cross-functional teams and key stakeholders** to analyze package volume and station density, resulting in a **projected annual savings of 9.8% for FedEx Ground**.
- Led data analytics initiatives that resulted in winning **second place in the KPMG US Cup Competition**, where the team's strategies were projected to save millions annually by enhancing FedEx Ground's delivery operations.

### UI Developer Intern

Leaps by Analytica

Bangalore, India

May 2022 - Sept 2022

- Engineered interactive React JS applications**, optimizing user experiences and boosting brand engagement by designing and developing web pages using **React JS, TypeScript, and Next.js**, resulting in a **45% increase in user engagement**.
- Advanced the development of both static and dynamic components for a platform similar to Coursera, effectively diagnosing and resolving application defects to enhance overall user experience.

## COURSE PROJECTS

### Deep Reinforcement Learning for Autonomous Vehicles

Center for Comparative Archaeology, University of Pittsburgh

Pittsburgh, PA

Oct 2024 - Dec 2024

- Designed and trained **reinforcement learning models (DQN, PPO, SAC, A2C)** to optimize autonomous driving strategies in a simulated environment.
- Implemented AI-driven agents using **PyTorch and Stable-Baselines3**, improving decision-making and performance tracking with TensorBoard.

### Machine Learning Project: Paint Color Analysis

University of Pittsburgh, Sponsored by PPG Industries

Pittsburgh, PA

Mar 2024 - Apr 2024

- Developed machine learning models to predict paint color popularity **using RGB and HSL data**, improving accuracy by **20%** and enhancing PPG Industries' design tools.
- Implemented clustering techniques and feature engineering** to identify trends in consumer color preferences, optimizing data-driven recommendations for new product development.

### Blockchain-assisted Verifiable Cassandra

University of Pittsburgh School of Computing and Information

Pittsburgh, PA

Feb 2024 - Mar 2024

- Implemented a **blockchain-integrated Cassandra** database using **Merkle Hash Trees (MHT)** for tamper-proof data integrity and verifiable query results, ensuring secure database operations.
- Developed Python scripts for **data preparation, query verification, and attack simulations**, demonstrating expertise in database management and scripting.