

# Syed Aariz

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## EDUCATION

### University of Houston

Bachelor of Science in Computer Science

- **GPA: 3.7/4.00**
- **Relevant Coursework:** Introduction to Programming, Computer Organization

Houston, TX

May 2028

## WORK EXPERIENCE

### Trainee

MD Anderson Cancer Center

May 2025 – Present

Houston, TX

- Processed 300,000+ patient addresses through a Python/SQL data pipeline using **pandas** and **geopy** to geocode and map to Census tracts, enabling tract-level analysis of disease prevalence and demographic rates.
- Automated integration of CDC PLACES and Census Bureau API data using the **requests** library, cutting manual prep time by 80% and generating 50+ structured datasets for Power BI dashboards supporting public health research.
- Launched a geocoding and census tract matching system with 95%+ accuracy that supports insights into cancer, disability, and chronic disease prevalence across 5,000+ U.S. tracts.

### Program Director

Elite Robotics

Jul 2024 – Nov 2024

Sugar Land, TX

- Developed individualized robotics curriculum, increasing student project completion rates from 60% to 90% and sustaining computational thinking retention for 70+ students.
- Spearheaded development and deployment of 20+ robotics systems using **LEGO Spike Prime**, integrating ultrasonic, color, and touch sensors for autonomous maze navigation, obstacle avoidance, and multi-stage operations.
- Amplified program visibility by launching and managing a targeted social media strategy, generating 10,000+ impressions and driving a 35% increase in student sign-ups through promotional videos, student build highlights, and robotics event coverage.

## EXTRACURRICULAR PROGRAMS/PROJECTS

### Participant - Data Scientist

NASA L'SPACE Proposal Writing and Evaluation Experience

Jan 2025 – Apr 2025

Remote

- Delivered algorithm design in a NASA proposal for autonomous Mercury navigation using **SLAM** to overcome real-time communication and terrain mapping challenges.
- Integrated a visual-inertial system and a **LiDAR-inertial system**, using **IMU** measurements to build maps for accurate real-time localization and hazard avoidance.
- Performed rigorous statistical analysis on Mercury's temperature data (290 F to 800 F) using the Parker Solar Probe, identifying three key thermal variables impacting spacecraft design and safety.

### Participant - Program Analyst

NASA L'SPACE Mission Concept Academy

Aug 2024 – Dec 2024

Remote

- Collaborated within a cross-functional team of 8 analysts and engineers in NASA's workforce academy, focused on space mission formulation across science, engineering, and programmatic disciplines.
- Developed Python scripts to automate data extraction and cleaning for **Preliminary Design Review**, reducing manual effort by 10 hours/week and improving data accuracy.
- Co-developed and deployed two standardized tools for scope and schedule management, improving cost estimation accuracy by 8% and enhancing coordination across project sub-teams.
- Implemented a risk assessment framework, mitigating potential cost overruns and schedule delays, and ensuring the project remained within the approved budget of \$300M+ across the multi-year project.

### Demographic Explorer

- Designed and launched Demographic Explorer, a public-facing web platform serving 200+ unique users in its first month, providing demographic insights for any U.S. address.
- Developed a **Flask** backend and **React** frontend hosted on AWS Amplify, integrating the Google Maps API for address autocomplete and location validation.
- Delivered sub-5-second query times for single addresses and batch uploads of up to 50,000 addresses, with automated Excel exports using **openpyxl**.

## TECHNICAL SKILLS

**Programming Languages:** Python, SQL, Java, C++, HTML, JavaScript, React, Xcode

**Data Libraries:** pandas, matplotlib, seaborn, json, requests, numPy, nominatim, pytorch, openpyxl

**APIs & Web Technologies:** REST APIs, FastAPI, Google Maps API, Flask, Postman, Census Bureau API

**Visualization Tools & Services:** Power BI, Tableau, AWS (S3, CloudFront, Route 53, Amplify)