Syed Ahmad Shah

ahmadsyedshah123@gmail.com | (201) 989-4743 | www.linkedin.com | Jersey City, NJ

EDUCATION

Stevens Institute of Technology   **Hoboken, NJ**
Bachelor of Engineering in Software Engineering | Minor in Computer Science | GPA: 3.8/4.0   *Expected May 2025*
- **Awards/Honors:** Dean's List, Edwin A. Stevens Scholarship
- **Activities:** Software Engineering Club, Robotics Club, Launchpad (Startup Assistance Organization)

WORK EXPERIENCE

National Science Foundation   **Miami, FL**
Researcher: Drone in Disaster Response   *June 2024 − September 2024*
- Developed an AI-driven drone system by integrating a YOLOv8 object detection model with the bytetracker algorithm and a real-time facial recognition pipeline (using a Supervision backbone) which accurately identified, tracked, and geolocated individuals to relay critical medical and location data to emergency services.
- Created reinforcement learning algorithms to autonomously coordinate drones across algorithm-defined areas resulting in enhanced search efficiency and comprehensive coverage during disaster scenarios.
- Collaborated with 5 machine learning mentors by utilizing Agile methodologies to coordinate iterative sprints ensuring continuous delivery of working models and rapid integration of advanced AI pipelines.

Researcher: Machine Learning for Insect Identification   *May 2024 − August 2024*
- Spearheaded the development of a general drone system by integrating custom machine learning programs for detection (70% accuracy), segmentation (using SAM and Deeplabv3), and classification (F-Score: 0.9), which accurately located infected plants and helped farmers reduce pesticide usage.
- Created a machine learning model to predict and classify leaves infected by grape phylloxera, resulting in improved early detection and proactive crop protection.

Department of Civil, Environmental, and Ocean Engineering   **Hoboken, NJ**
Software Developer and Circuit Fabricator   *Sept 2023 − May 2024*
- Engineered a wave power-transfer device by harnessing harmonic motion to power on-board devices, enabling extended oceanic observations.
- Implemented a sophisticated remote data transmission system using Arduino to transmit temperature, turbidity, and power output metrics, ensuring reliable real-time monitoring at an inland station.
- Fabricated a circuit with LTspice with integrated fail-safes, and distributes power accordingly, incorporating a plethora of interchangeable sensors to guarantee continuous operation of the device.

Launchpad   **Hoboken, NJ**
Software Developer   *Sept 2022 − May 2023*
- Programmed drones intended for law enforcement by integrating tracking algorithms to monitor fleeing suspects, minimizing direct confrontations in public settings and enhancing officer safety.
- Developed comprehensive business plans for the organization by articulating a clear value proposition and strategic growth framework, generating significant investor interest and securing ample funding.
- Implemented real-time hand detection and landmark tracking using the Mediapipe library to enable gesture commands, enhancing user interaction and control of the drone.
- Created custom tracking software for target path prediction by leveraging YOLOv5 for precise object detection, resulting in improved accuracy in tracking suspect trajectories.

PROJECTS

Fitbit Web App   **Hoboken, NJ**
Software Programmer   *Jan 2024 − May 2024*
- Developed a web application in React Native with the Fitbit API, enabling health professionals to monitor patients and access key metrics for analysis, resulting in improved patient monitoring and data-driven insights.
- Managed communication between the app and Firebase to store profile data and key metrics, ensuring secure and efficient data management for patient records.
- Established secure authorization using OAuth2 and implemented refresh tokens, enhancing application security and streamlining user sessions.

LIDAR Positioning System   **Hoboken, NJ**
Electrical Engineer and C++ Developer   *Sep 2023 − Dec 2023*
- Developed a vehicle navigation system by integrating LIDAR and ultrasonic sensor data into a C++-driven serial network to accurately locate vehicles, guiding them safely toward targets while avoiding potential hazards in a mock city-like environment.

SKILLS & INTERESTS

Software: Jetbrains utilities, Solidworks, Tensorflow, Jira, Microsoft 365, Figma, MATLAB, UML, Agile, Github, Git, Devops, UI/UX, JUnit, MongoDB, VS Code, Eclipse, Docker, AWS, Latex, LTSplice, OpenCV, LucidChart.
Programming Languages: Python (Pandas, Numpy), C++, Java, Javascript, React.js, HTML/CSS, Swift
Skills: Project Management, Data Analysis, Market Research, Client Communication, Machine Learning, Data Visualization
Certifications: AT&T Technology Academy (Agile Processes)