

Brandon Vazquez Munoz

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EDUCATION

Cornell University, College of Engineering: Ithaca, NY

Expected May 2027

Bachelor of Science in Computer Science

- **Relevant Courses:** Algorithms, Object-Oriented Programming & Data Structures, Functional Programming, Linear Algebra, Operations Research, Multivariable Calculus, Probability and Statistics

WORK EXPERIENCE

Software Developer, Cornell University Unmanned Air Systems

October 2023 - Present

- Developed an obstacle avoidance system using LiDAR and the Density-Based Spatial Clustering of Applications with Noise (DBSCAN) algorithm for the team's fixed wing plane, significantly enhancing real-time obstacle detection and response
- Built computer vision models, e.g. YOLO with SAHI, with deep learning, transfer learning, and synthetic data generation for automatically detecting and identifying alphanumeric targets with 98% accuracy
- Developing reinforcement learning system with Stable Baselines and Gymnasium for real-time obstacle avoidance

Technical Lead, LinkedIn ASCEND Internship

May 2024 - Present

- Spearheading the development of a Large Language Model (LLM)-based interview preparation tool using React.js, Node.js, Supabase, and Python, simulating real-world behavioral interviews to enable users to practice anytime and receive tailored feedback
- Collaborated with ASCEND peers and LinkedIn employees to design, plan, and execute project milestones, ensuring seamless integration of diverse ideas and achieving timely project completion

Campus Director, Thrive Scholars

August 2024 - Present

- Organized and led key events for 15+ students, including resource tours, socials, and wellness programs
- Managed an event budget and handled all logistical aspects, from submitting proposals to completing post-event documentation, ensuring 100% compliance with organizational guidelines
- Coordinated campus visits for donors, while fostering scholar engagement and community involvement

Software Engineering Extern, Citadel LLC

May 2024 - August 2024

- Enhanced software engineering skills through 5 collaborative projects with industry leaders, focusing on financial modeling and analytical technologies
- Led the creation of a comprehensive Stock Market Metrics comparison platform, leveraging HTML, CSS, JavaScript, Python, and Django, enabling users to analyze 6 different stock metrics in real-time

PROJECTS

- **Computer Vision Alphanumeric Target Detection:** Built deep learning models (YOLO with SAHI) utilizing transfer learning and synthetic data to detect and identify alphanumeric targets with 98% accuracy
- **EchoAce:** Spearheading the development of a behavioral interview simulation tool that accommodates 99 spoken languages using React.js, Node.js, Supabase, and Yarn to provide users with tailored feedback
- **Autonomous Agent for Obstacle Avoidance:** Developing a reinforcement learning model with Stable Baselines and Gymnasium to train an autonomous agent for real time plane obstacle avoidance

ORGANIZATIONS

Cornell Computer Reuse Association

September 2023 - Present

- Collaborate with a team to refurbish and repair donated technology. Restored equipment is sent to schools, community centers, and nonprofits, enhancing access to technology

Cornell Bowers CIS ASCEND

September 2023 - Present

- Selected as one of 25 students from over 200 applicants for a prestigious two-year program guiding computer science students into tech careers
- Facilitated tech exploration events for dozens, fostering engagement and interest in the tech industry

TECHNICAL SKILLS

Programming Languages: Python, OCaml, Java, CSS, HTML, JavaScript, React, Node.js

Libraries/Tools: PyTorch, OpenCV, Scikit-learn, NumPy, Pandas, matplotlib, Flask, Node.js, Onshape

Spoken Languages: English (Native Speaker), Spanish (Native Speaker)

Awards and Honors: Gates Scholar, Lockheed Martin Scholarship Winner, ColorStack, Thrive Scholars