Shashank datta Bezgam

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EDUCATION

Virginia Polytechnic Institute and State University — Blacksburg, VA
Bachelor of Science (B.S.) — August 2019 – [Expected] May 2023
Major: Computer Science; **Cumulative GPA:** 3.75/4.0
Dean's List: Fall 2020, Spring 2021, Spring 2022, Fall 2022

TECHNICAL & LEADERSHIP EXPERIENCE

CS 4104: Data & Algorithm Analysis (CS@VT) — Blacksburg, VA
Undergraduate Teaching Assistant — Jan 2023 – Present

- Collaborated with a 6-member team to create grading rubrics and evaluate student assignments.
- Provided 10+ hours of support to students, including addressing doubts and assisting with homework assignments.

Collaborative Robotics Laboratory (Collab@VT) — Blacksburg, VA
Machine Learning Research Internship — May 2022 – August 2022

- Trained and fine-tuned hyperparameters of state-of-the-art object detection architecture YOLOv5s6 model on a custom dataset using transfer learning for real-time detection with 80-95% accuracy to assist Collab@VT's goals.
- Modeled python scripts to automate synthetic dataset creation of YCB-dataset objects for real-time detection at 140+ FPS with YOLOv5 PyTorch labels granting time efficiency to improve by 90%.
- Localized 2D pixels to 3D real-world coordinates by utilizing trained YOLOv5 model to help robot arm.

Hokie Electric Vehicle Team (HEVT@VT) — Blacksburg, VA
Connected and Automated Vehicles (CAVs) Sub Team Member — January 2022 – Present

- Competing in the EcoCAR EV Challenge competition sponsored by the U.S. Department of Energy, General Motors, & MathWorks – validated by achieving SAE L2+ automation in the 2023 Cadillac LYRIQ.
- Designing an energy-efficient sensor fusion algorithm for 4+ stock sensors in Software-in-Loop (SiL) simulation. Results will later be evaluated at competition among 14 other schools.
- Gained extensive knowledge of automotive engineering and vehicle controls by participating in an Independent Study program with 20+ students and achieving a grade of >100%.

Teaching Robotics and Engineering (TRE@VT) — Blacksburg, VA
Vice President & Treasurer — August 2020 – Present

- Managing a registered student organization that explores principles of microcontrollers & programming and demonstrates these practices to students with diverse technical backgrounds.
- Administered club principles and managed the officers to deliver a positively fostered learning experience for student members and the officers, resulting in the club's fame growth by ~75%.
- Recruited 4 new officers, an executive board, and a faculty adviser for the club.

PROJECTS

SWAP (Web Application – Next.js Framework) — August 2022 – Present

- Leveraged VT SSO login to verify user identity and handle P2P course transactions – reducing the need for social media applications by 70% in exploring courses of interest and managing scheduled classes at will.
- Streamlined development on Next.js framework with MERN stack to design user accounts, define application data schemas, and facilitate P2P course trades – resulting in reduced client-side page rendering times by 95%.
- Deploying application on Vercel edge network and monitoring website using Better Uptime and Google analytics to view incidents, schedule on-call duties, and manage external integrations with SWAP.

Synthwave (iOS Application) — August 2020 – August 2022

- Directed the creation of an intuitive iOS app that allows users to read and write their own Mifare NFC cards enabling matters like sharing resumes, contact information, and social media information 120% efficiently.
- Operated back-end framework on XCode with Firebase Authentication integration and file storage to execute user accounts, consumer-oriented clicks, and other data – improving robustness by 85%.

SKILLS & INTERESTS

Technical Skills: Java, Python, C/C++, Next.js, HTML/CSS, MongoDB, Express.js, React, Node.js, Vercel, SQL, Swift/SwiftUI.
Interests: Software Engineering, Computer Vision, Deep Learning, Backend Development, Autonomous Systems.
Relevant Coursework: Data Structures and Algorithms (1 & 2), Intro to Computer Organization (1 & 2), Computer Systems, Comparative Languages, Mobile Software Development (iOS), Software Design.