Swagat Adhikary

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EDUCATION

University of North Carolina at Chapel Hill – Chapel Hill, NC May 2026
B.S. Computer Science & Statistics & Data Science| M.S Statistics| GPA: 3.8 | SAT: 99th Percentile
Yearly Scholarships: Harvey Duke $6K | $4K SG NC | $7.5K Patricia Dallas Horoho
Teaching Assistant for Data Structures and Algorithms

Wake Technical Community College – Durham, NC July 2022
Certificate in IT- Web Development Fundamentals | Dual Enrolled in High School for College Transfer
Utilized Apache, FileZilla, Relational Databases, Bootstrap, MySQL | Learned Standard Industry Practices

EXPERIENCE

UNC Telepresence Lab– Chapel Hill, NC August 2023 – Present
AR/VR Acoustic Simulation and Machine Learning Specialist

- Programming the sound emission and detection system in C/C++ to capture ray data within different room geometrics
- Extracting 10K+ datapoints to feed into ML model for accurate relationship between sound behavior and object material
- Simulating journey of specular and diffuse rays within an environment to enhance acoustics experience for AR/VR users
- Leveraged advanced mathematics, algorithms, and libraries (pygsound) to improve realism of virtual environments

Fidelity Investments – Durham, NC June 2023 – August 2023
Software Engineering Intern

- Implemented a portfolio exchange tracker that abides by 100% of business contracts and gov legalities
- Modernized Back-End to redirect >70% of traffic from phone agent to UI client for automated asset rebalancing
- Formulated a RESTful API to GET and POST JSON data to AWS DynamoDB with strict security in mind
- Collaborated to setup environments, architect a Schema, and run LAMBDA function to scale with traffic
- *Utilized Insomnia, IntelliJ, Maven Archetypes, LWC, Swagger, Git, Microservices, and Agile Methodology*

EdIT (UNC School of Education IT) – Chapel Hill, NC August 2022 – June 2023
Student Technology Assistant

- Assisted staff and faculty with technical issues to ensure a smooth operation for the School of Education
- Troubleshooted various equipment such as laptops, iPads, projectors, servers with problems ranging from wifi to
- Imaged 50+ devices and wiped ~100 HDDs/SSDs through coordinated effort with coworkers
- *Destroyed data via BitRaser; employed Jamf for MacOS and batch script for Windows to automate app installation*

Zebra Robotics – Cary, NC March 2022 - August 2022
Programming and Robotics Instructor

- Trained 150+ students ranging from grades 3 – 10 for 20 – 30 hours weekly in enthusiastic and non-overbearing fashion
- Modulated technical details of hardware and software components of robotics to students' level of knowledge
- Challenged students with programing problems in Python, Java and Web Designing in HTML/CSS
- *Operated MicroPython for higher level Ev3 robots and Block-Based programming for Spike Hubs*

SKILLS

Programming Languages: *Python, MATLAB, HTML, CSS, MySQL, Visual Basic, Java, JavaScript, PyTorch, R, C++*
Software & Frameworks: *VSCode, WordPress, RStudio, AWS, Linux, Machine Learning, Azure Cloud, Docker, Kubernetes*
Certifications: Python from Microsoft, PCAP from Python Institute, IT-WebDev from Wake Tech, John Deer Sponsorship prize

TECHNICAL PROJECTS

HackNC Sponsorship Prize from John Deer – Chapel Hill, NC November 2022

- Invented a RaspberryPi device to measure humidity, temperature, heat index, and water level in soil
- Uploaded soil content data to Firebase to be extracted as JSON and visualized on Google Colab
- Embedded the Colab gist on our website which we hosted with REACT
- Awarded $400 in Best Agricultural Innovation Award (John Deere) and Best Junior Hackers by Infosys

Clap-Controlled Car – Cary, NC June 2020

- Developed a miniature car using an Arduino, a sound sensor, and other supporting systems
- Programmed the microcontroller to move the car right upon 2 claps, left on 3, and backward on 4

Exercise Machine – Cary, NC July 2020

- Assembled buttons, wires, LCD display, batteries, etc., to create a device to sort through various timed exercises
- Soldered a left, home, and right button to change work-out routine, a potentiometer to adjust screen brightness, and a timer to beep upon end of a set and in the morning as an alarm