Brianna Ta

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Education

University of North Carolina at Chapel Hill, Chapel Hill, NC *May 2024*
Bachelor of Science, Computer Science & Data Science, GPA 3.985/4.00 *(Dean's List)*

Work Experience

Cisco Systems, *Technical Sales Engineering Intern* *May 2022 – Present*

- Youngest person to ever present at Cisco Live (*Developing IoT Application Servers*)
- Created the framework for facilities management and asset tracking in the US Air Force and Navy
- Developed Node-RED Webex and email notifications for smart facilities management of 15 data centers
- Integrated Node-RED and ATAK client for Federal IoT to track important assets
- Improved UI dashboard for monitoring LoRaWAN sensor data
- Helped run the Cisco High 2022 Program with over 140 externs at 9 sites nation-wide

TTeK, *Software Engineering Intern* *December 2021 – March 2022*

- Developed admin website in React and integrated with Google Firebase database

Kenari Adaptive Learning, *Software Engineering Intern* *March – July 2021*

- Performed QA, fixed bugs, and enhanced UI design with Angular components
- Integrated frontend with backend and Google Firebase database

re:Bloom, *Web Developer* *January - April 2021*

- Developed several websites and special features for clients through WebFlow and WordPress
- Implemented FlexBot, SEO, and ADA regulations

Sirch, *Backend Developer* *January – March 2021*

- Acted as team lead to manage meetings and allocate tasks
- Created a Twilio API proxy service and with Node.js; integrated with a MongoDB database, Bootstrap front end widget, and IOS app

Relevant Coursework

2D Computer Graphics: Fundamentals of modern software 2D graphics; geometric primitives, scan conversion, clipping, transformations, compositing, texture sampling. Advanced topics include gradients, antialiasing, filtering, parametric curves, and geometric stroking.
Machine Learning: Machine learning using Juypter notebooks, involving the application of categorization algorithms on the MNIST handwritten digits dataset (k-means clustering, OVR SVMs, logistic regression, decision tree analysis, CNNs)
Web App Development: Web app development using JavaScript, HTML, CSS, and Handlebars, including web server configuration using Node.js, interacting with the DOM, using OAuth authentication, making use of middleware and cookies
Computer Vision: An introduction to the field of Computer Vision in C++, beginning with computational geometry and convex hulls before moving into Canny edge detection and rendering 3D geometric shapes
Artificial Intelligence: Artificial Intelligence with Python, covering game theory, graph traversal using A*, and minimax with alpha-beta pruning. Also covers decision trees, perceptrons, and neural networks using multivariate calculus, linear algebra, and machine learning libraries

Projects

kiwi *(**1st Place**, **Best Use of Twilio**, Pearl Hacks 2023):* An easy to use, automated budget tracker using receipts (physical and digital) and provides budgeting calculations based on income and saving goals alongside text notifications for reminders
OTIS *(**2nd Place**, Cisco Webex Hackathon):* MERN stack web application for tracking building occupancy using Computer Vision and Machine Learning; deployed on Heroku using AWS
Taxi Traffic *(**1st in CabIQ Category**, HackTJ 7.5):* Web interface displaying our data analysis and prediction algorithm for taxi demand hot spots in DC
Mitigavite *(**Top 13**, Bloom 2020 Startup Competition):* Evaluates vitals and symptoms using biosensors and user input, calculates probability of having COVID-19, checks if the user is wearing a mask properly
Guns Begone *(HackTJ 6.0)*: Python application that determines whether the firearm is within a certain proximity of a school or other public area, alerts security through email or push notifications along with information about the intruder
Care4Me *(HackTJ 5.0):* Java application that asks questions specifically targeting areas of the brain affected by Alzheimer's and determines what kind of risk the user has for the disease

Skills

Software: Git, VS Code, Google Colab, Juypter Notebooks, Microsoft Office/Google Suite
Programming Languages: Python, Java, HTML, CSS, JavaScript, C++, C
Technologies: OpenCV, Python ML (Pandas, NumPy, TensorFlow, Keras, Matplotlib), Node-RED, Node.js, Angular.js, React.js, Express.js, Handlebars, Node-RED, ATAK, MongoDB, Google Firebase, MySQL, AWS, LoRaWAN

Clubs

HackNC, **Lead Director** (*2023 – Present*): Organized the largest hackathon in the Southeastern United States, led the sponsorship, development, marketing, logistics, and graphics efforts, collaborated with UNC CS organizations, company sponsors, and the UNC CS department
Director of Development (*2022 - 2023*): Led 30 members on the dev committee, restructured the website, organized several beginner-friendly workshops, programmed text notifications for events, team matching algorithm, and judging web scraping algorithm
CS + Social Good, **President** (*2022 – Present*):
Tech Lead (*2022 - 2023*) Led a team of web developers to create an analytical dashboard website for Environmental Educators of North Carolina (EENC), helped a local nonprofit (PORCH) create a website to log and track food donations
Girls Who Code, **Outreach Committee** (*2022 – 2023*): Social media content creation, marketing for the club, reaching out to schools