Tanuj Dave

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LinkedIn, GitHub

EDUCATION

University of Illinois at Chicago, Chicago, IL   **May 2025**
Master of Science Computer Science

Relevant Coursework: Neural Networks | Object-Oriented Languages and Environments

University of Illinois at Chicago, Chicago, IL   **May 2023**
Bachelor of Science Computer Science   *Magna Cum Laude* (GPA 3.82)
Dean's List for 7 Semesters

Relevant coursework: Cloud Computing | Artificial Intelligence | Machine Learning | Data Science | Systems Engineering | Advanced Data Structures and Algorithms | Software Design/Engineering

EXPERIENCE

Associate Full Stack Developer, Chicago, IL   July 2023 – August 2023
CADA, UIC
- Full stack maintenance and enhancements for university wide websites and servers
- Ensure seamless functionality, compatibility across browsers and devices.
- Perform website backups and maintain security.
- Maintain hardware, software, and user accounts, delivering effective end-user training and support.
- Monitor and develop website features, swiftly troubleshoot issues, and implement user-centered solutions.
- Collaborate with cross-functional teams, resolving intricate technical challenges collectively.

Software Engineering Intern, Chicago, IL   May 2022 – August 2022
Continental AG
- Project: Asynchronization of the telematics FOTA (firmware-over-the-air) updates and propose a proof of concept to the team.
- Developed a prototype individually that parallelizes the update process and uses the proprietary ECU embedded system architecture to optimize multi-processor components updates. Handled errors, timeouts, shutdowns and used them to further optimize the workload, update routines of the update agents and error reporting.
- Prototype saved 30% to 40% of time while updating both individual and multiple components distributed across the system.
- Learn the proprietary system architecture and features like carrier communication, OTA update calls, automated testing etc.

Research Intern (Software), Chicago, IL   January 2021 – May 2021
Rehabilitation Robotics Lab
- Developed a high frequency application using python and C++ to extract the data from 3-D motion-sensing equipment and simultaneously parse and store it while displaying a 3-D real-time visualization of the subject.
- Save the data onto the computer to analyze the overall range of motion and weaker range of motion to help amputees.
- Used pyBullet and Vicon DataStream in python to render a live 3-D humanoid, move humanoid using motion capture data and pandas. Used UDP/TCP communication to bridge the communication between the Vicon motion capture and the application.

Computer Operations, Chicago, IL   March 2021 - May 2023
CADA, UIC
- Used Microsoft Server to administer and maintain Active Directory for the University
- Write, test, and operate scripts for automated installations and entry-level computer programs.
- Built and maintained macOS and Windows machines for the university.
- Assist professors, faculty, and staff with their software and hardware problems.

Computer Science Teaching Assistant, Chicago, IL   January 2022 – May 2023
Computer Science Department, UIC
- Subjects: Data Structures and Algorithms, Intro to Programming
- Conducted oral exams (technical interviews)
- Leading labs and projects to help students grasp crucial programming and logical concepts.

SKILLS

Languages: C++, Java, Scala, Python, C, F#, JavaScript.

Development: Cloud Computing, Embedded Software, Telematics, Automated testing, ML/AI, Containerization, Apache Hadoop-Spark, RESTful services, Distributed Systems, AWS, IoT, Wireless Communication, Windows Server, MVC, RPC, microservices, Pandas, sklearn, NumPy, Android development, Linux, Docker, Google Tests, UML, SQL, git, Jira, Agile development, HTML, CSS, Drupal, WordPress, Windows Server 2011/2022, SSL.

MAJOR PROJECTS

- **RESTful Interval Search service:** A RESTful AWS Lambda function that finds the injected string and the time-interval in a log file in $O(\log(N))$ complexity. Used gRPC server deployed in AWS EC2 and a gRPC client to optimize the communication and decrease the latency.
- **Breast-Cancer Prediction:** Machine learning models developed using python, sklearn on the Breast Cancer Wisconsin dataset. Average 97% accurately predicts the malignancy of cancer cells. Used Decision trees, Naïve Bayes, Linear and Logistic regression using the gradient descent to observe patterns and create an optimized model for the dataset.
- **Multiplayer Sessions Android Tic-Tac-Toe:** A multiplayer tic-tac-toe that supports up to 8 players. Multithreaded GUI and backend server that maintains several player sessions, developed using Java on Android Studio and C++. Used the multi-server client model that enables users to play a multiplayer version of Tic-Tac-Toe with their friends over the internet using their Android device.
- **Cloud Computing organization:** Multiple datacenters that run simulated jobs. A cloud simulator using a software package Cloud2SimPlus that models cloud environments and operates different cloud models. Used several scheduling policies like Round Robin, different data center host structures and VM policies.
- **Distributed Recording and DJ booth**: A distributed embedded system that used 4 Arduinos and 4 Wi-Fi modules that use IoT clustering over Wi-Fi to transfer live recording data and update the state to enable recording voice, control, music output and add beats to the music (Each Arduino for a function) to implement a Recording and DJ booth.
- **Autonomous Driving Bot:** Robot car and software made using Arduino Uno and HC-SR04, that senses its surroundings and drives itself tackling obstacles.

ACTIVITIES

Chicago Triathlon, Chicago, IL   August 2022

Participant/Finisher

- Participated and completed the Chicago 2022 Triathlon Supersprint consisting of swimming, bicycling and marathon demonstrating endurance, determination, goal setting and resilience.