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 3.83)
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 Back End Engineer, Chicago, IL July 2023 – August 2023
CADA, UIC

- Maintained and developed university wide websites and servers.
- Enhanced functionality and provided critical support during server migration.
- Performed daily security checks and ensured functionality and compatibility across browsers and devices.
- Maintained user accounts and delivered end-user training and support.
- Collaborated with cross-functional teams and provided round the clock support.

Software Engineering Intern, Chicago, IL May 2022 – August 2022
Continental AG

- Project: Asynchronization of the telematics FOTA (firmware-over-the-air) updates, proposed a proof of concept to the team.
- Developed a prototype individually withing 3 months 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 40% of time while updating both individual and multiple components distributed across the system.
- Learnt 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 – present
Computer Science Department, UIC

- Subjects: Data Structures and Algorithms, Computer Design, 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, Python, C, Scala, Ruby, F#, JavaScript.

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

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 Analysis and Prediction:** Several Machine learning models developed in python that take as input the patient's cancer mass attributes and provides a detailed visualization, statistical analysis and uses machine learning to analyze the patient's type of cancer along with a tendency prediction.
- **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:** Simulated multiple datacenters that run jobs sent by simulated clients. 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 and Parking Bot:** Robot car and software made using Arduino Uno and HC-SR04, that senses its surroundings and drives itself tackling obstacles.

ACTIVITIES

Google Developer Students Club UIC, Chicago, IL August 2023
Member

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.