

Apoorav Rathore

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EDUCATION

Bachelor of Science, Electrical & Computer Engineering **Expected May 2026**
The University of Texas at Austin
Track: Computer Architecture and Embedded Systems
Minor in Business
Overall GPA: 3.14/4.00

WORK EXPERIENCE

Industrial Automation Engineering Intern, Toshiba International Corporation **May 2025 – Aug 2025**

- Developed analytics software (using .NET, C#, C++, Python, JavaScript) independently to demonstrate new industrial controller features, such as API data analysis, remote monitoring & web dashboards
- Improved plant data collection by creating new applications to analyze statistics like output volume, water flow, alarm status, and process data (PLC, DCS, HMI)
- Developed embedded software application with real-time data processing capabilities (using TCP/IP communications) in C/C++ on Yocto Linux to send remote mobile alerts to plant staff, reducing reaction time
- Presented new applications to management, and directly to customers at a trade show (WEFTEC)

Mechatronics Undergraduate Research Assistant, The University of Texas at Austin **Sept 2024 – Present**

- Design and implement hardware and embedded software for an experimental ingestible ‘pill’ robot
- Enable non-invasive surgical operations by developing Bluetooth Low Energy connectivity software in C
- Upgraded existing PCB designs (Altium Designer), reducing size by over 50%
- Research submitted to 2026 IEEE/ASME International Conference on Advanced Intelligent Mechatronics

PROJECTS

IoT Environmental Monitoring System and Data Pipeline, Personal Project **Dec 2025 – Present**

- Designed and develop full-stack, end-to-end air quality monitoring system with sensors, microcontroller, MQTT bridge, cloud-native backend, and web frontend. Currently integrating AI summarization features
- Programmed microcontroller in C/C++, developed bridge service in Python, backend services in Node.js
- Independently researched hardware and wrote design, architecture, and requirement documents

Motion-Input Bluetooth Controller, Embedded Systems Laboratory **Nov 2025 – Dec 2025**

- Designed hardware and software for a motion-control enabled game controller (Nintendo Wii)
- Developed drivers in C to allow for precise measurement and transmission of motion data
- Enabled Bluetooth Low Energy communication between controller and PC

AI Calorie Estimator App, Data Science Laboratory **May 2025**

- Developed full-stack computer vision application with intuitive UI to solve nutrition tracking problem
- Designed models with large datasets (100k+ images), determining food type (100+ categories) and weight
- Achieved >70% accuracy rate with custom ResNet-18 based pipeline

SKILLS

Certifications: Oracle Certified Foundations Associate, Java
Programming Languages: Java SE, C# (.NET), C++, C, ARM Assembly, Python, SQL, SQLite, JavaScript/TypeScript, HTML, CSS, Shell Scripting, Verilog, VHDL, Bash, CMD, Swift
Tools: Git, Linux, REST API, Wireshark, Docker, MATLAB, Android Studio, Xcode, BitBucket, Github, Visual Studio
Languages: English, Hindi, French
Other: Communication, Teamwork, Leadership, Desire to Learn, Creativity