Anish Choudhury

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EDUCATION

Texas A&M University **College Station, TX**
Bachelor of Engineering in Computer Engineering; Minor in Mathematics May 2029
College of Engineering
Relevant Coursework: Data Structures & Algorithms, Electricity and Magnetism, Program Design, Digital Systems, Discrete Structures, Electrical Circuit Theory, Random Signals and Systems, Programming Languages (Object-Oriented)

SKILLS

Languages: React, Python, JavaScript, HTML/CSS, Java, C++, Swift
Tools & APIs: Gemini AI Platform (Flash 2.5), VSCode, Expo, QGIS, Firebase, Git, GitHub, WSL, Vite, OpenCV, CAD, Raspberry Pi, Arduino
Database and Backend Technology: Node.js, Firebase (Auth, Firestore, Storage), WebSockets
Cloud Platforms: Cloudflare

EXPERIENCE

Edupath **Allen, Texas**
Software Engineering Intern June 2024 - August 2025
- Employed A* and Dijkstra's algorithm in an application to assist **7000+** students in navigating a 200+ acre campus.
- Improved hallway efficiency by 75%, reduced congestion, and saved a cumulative 25 hrs. / mo.
- Ensured students' privacy by restricting the application's GPS usage permissions and used weighted node points.

Tech Stack: React, Python, Expo, QGIS, Firebase, Git

UTRGV High Scholars **Edinburg, Texas**
Research Assistant May 2024 - August 2024
- Collaborated with Dr. Lee at UTRGV to evaluate the ugrizy filter set for the Vera C. Rubin Observatory's LSST.
- Analyzed simulation data across **500+** varying stellar ages and metallicities to construct TRGB Color-Magnitude Diagrams.
- Identified optimal optical filters to optimize TRGB-based cosmic distance measurements.

Tech Stack: Word, Excel, Simulations

NASA Hunch Environmental Controls **Allen, Texas**
Project Team Leader *January 2024 - May 2024*
- Engineered a real-time lunar environment monitoring app by integrating Arduino sensors, Firebase backend storage, and a custom React Native GUI to track critical environmental metrics.
- Designed system CAD models and developed software using C++, VSCode, Expo, and GitHub
- Recognized as a State Champion and **National Finalist**; Software Division for innovative base design and execution.

Tech Stack: Arduino, C++, React, Firebase, OnShape, Expo, Node.js

LEADERSHIP & INVOLVEMENT

Smart Mirror **Allen, Texas**
Project Team Leader *June 2024 - August 2024*
- Engineered a Smart Mirror; React Native and Raspberry Pi; a custom, real-time GUI display for daily essentials.
- Leveraged GitHub documentation; open-source practices to optimize system deployment and hardware integration.

Tech Stack: Raspberry Pi, React, Git

TAMU Rocket Engine Design **College Station, Texas**
Avionics Team Member February 2026 - Present
- Engineered custom PCB layouts in KiCad and modeled high-stress rocket engine components in SolidWorks CAD to optimize hardware integration and structural performance.
- Developed low-latency avionics firmware and data analysis pipelines using C++ and Python to manage critical flight systems and telemetry.

Tech Stack: Teensy, C++, Python, KiCad, SolidWorks

Tidal Hack - MamaBear **College Station, Texas**
Best Beginner Track Winner February 2026
- Engineered MamaBear, a contactless monitoring system using computer vision to track infant vital signs (heart rate and breathing) in real time without physical wearables.
- Combined Eulerian video signal processing with vision AI to deliver live health telemetry, automated vital alerts, and intelligent room intruder detection.

Tech Stack: Python, Base64, Cloudflare, Gemini API, JavaScript, Node.js, Numpy, OpenCV, React, Websocket