

# Arnav Surjan

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## EDUCATION

<b>The University of Texas at Austin</b> <i>Bachelor of Science in Electrical and Computer Engineering, Minor in Entrepreneurship</i>	GPA: 3.44/4.00 Expected May 2026
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## WORK EXPERIENCE

<b>Software Engineering Intern</b> <i>LightBeam.ai</i>	Jun 2025 – Aug 2025 San Jose, CA
<ul style="list-style-type: none"><li>Developed a full-stack application using Flask and React to securely manage and monitor Kubernetes clusters, integrating REST APIs, authentication flows, and real-time UI state persistence</li><li>Designed and optimized database schemas and migrations with SQLAlchemy and Alembic, ensuring reliable storage of cluster metadata and resolving schema conflicts and unique constraint issues</li><li>Implemented features for CSV-based cluster ingestion, automated SSH tunneling, and connection lifecycle management, improving reliability of remote connections by 65%</li></ul>	
<b>Software Engineering Intern</b> <i>Bell Flight</i>	Jun 2024 – Aug 2024 Arlington, TX
<ul style="list-style-type: none"><li>Developed a multithreaded C# &amp; XAML application to simultaneously display Operational Flight Program part numbers for 12 unique Flight Control Computer processors</li><li>Composed a DXL script for cataloging requirements in Rational DOORS, automating the identification of missing links and reducing auditing time by 95%</li></ul>	
<b>RTI Summer Engineering Intern</b> <i>Texas Department of Transportation</i>	May 2023 – Aug 2023 Austin, TX
<ul style="list-style-type: none"><li>Expedited the categorization of public university research documents by implementing a digital workflow using OnBase and Microsoft SharePoint, reducing processing time by 40%</li><li>Streamlined the production of research project summaries through the strategic application of natural language processing techniques with generative AI, drastically increasing readability</li></ul>	

## PROJECTS

<b>Solar Vehicle Controls Software</b>   <i>Longhorn Racing Solar</i>	Aug 2022 – Present
<ul style="list-style-type: none"><li>Engineered a Renode-based solar vehicle speed simulator to model motor controller performance using a PID controller in C</li><li>Developed a C application to read and relay Prohelion motor controller status messages to the driver display, such as RPM and error codes</li><li>Remodeled vehicle control state machine to optimize gear shifting, regenerative braking, and acceleration</li></ul>	
<b>Longhorn Network</b>   <i>Software Design &amp; Implementation II</i>	Aug 2024 – Dec 2024
<ul style="list-style-type: none"><li>Developed a back-end social network simulation in Java to model student interactions and referral paths</li><li>Implemented core algorithms, including Gale-Shapley, Prim's, and Dijkstra's, to handle roommate assignments, pod formation, and referral pathfinding</li><li>Engineered a multithreaded architecture to simulate concurrent real-time actions like friend requests &amp; messaging</li></ul>	
<b>Save Simba</b>   <i>UT Embedded Systems Game Design Competition – 3rd Place</i>	Jan 2023 – Apr 2023
<ul style="list-style-type: none"><li>Developed game in embedded C on ARM-based TI microcontroller using interrupts, timers, DAC, ADC, etc.</li><li>Created drivers for basic I/O, sprite animation, sound effects, etc.</li><li>Designed game graphics and sprites using Procreate for iPad</li></ul>	

## LEADERSHIP & ACTIVITIES

<b>First-Year Interest Group Mentor</b>   <i>The University of Texas at Austin</i>	Aug 2023 – Present
<b>Treasurer, Member</b>   <i>IEEE Robotics and Automation Society</i>	Aug 2022 – Present
<b>Controls Software Developer</b>   <i>Longhorn Racing Solar</i>	Aug 2022 – Present

## TECHNICAL SKILLS

<b>Languages:</b> Python, C/C++, Java, C#, JavaScript, SQL, DXL, Verilog, MATLAB
<b>Frameworks:</b> Flask, React, SQLAlchemy, Alembic, REST APIs, Material-UI, XAML, .NET
<b>Tools:</b> Git, Docker, Kubernetes, KiCad, Onshape, LaTeX