

# Tanuj Dontaraju

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## EDUCATION

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### University of Delaware Honors College

*B.S. in Artificial Intelligence Engineering*

GPA: 3.8/4.0

Relevant Coursework: Analytical Geometry and Calculus I, II & III, Introduction to Systems Programming, Introduction to Digital Systems

**Foundational Focus:** Programming fundamentals, data structures, and mathematical modeling applied to computational systems.

## EXPERIENCE

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### Mercor

*Aug 2025 – Jan 2026*

*AI / Software Engineering Contributor*

- Curated and labeled datasets across image and text domains to support machine learning model training.
- Preprocessed and validated data to improve dataset quality and consistency for training pipelines.
- Worked within structured workflows to maintain high data quality standards for AI development.

## PROJECTS

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### AI Race Strategy Simulator (In Progress)

*Python, Data Modeling, Simulation Systems*

- Developing a data-driven simulation system to model Formula 1 race outcomes using historical lap times, tire degradation, and track-specific variables.
- Building a lap-by-lap simulation engine incorporating probabilistic events such as pit strategies, safety cars, and performance variability.
- Designing a strategy optimization module to evaluate and compare multiple race strategies (e.g., undercut vs overcut).

### SafeCircle (Mobile Safety Application)

*Team Project (3 contributors)*

*TypeScript, REST APIs, Geolocation, AI Integration*

- Developed a mobile safety application with real-time location tracking and emergency communication features.
- Integrated speech-to-text and generative AI APIs to process and summarize audio data during emergency scenarios.
- Built backend endpoints for location tracking, audio processing, and alert systems with secure API handling.

### Steganography Project (Pixel Parse)

*Python, Data Encoding, Image Processing*

- Designed a full-stack steganography system for hiding and retrieving secret messages inside images using LSB encoding.
- Implemented ASCII-to-binary conversion pipelines and pixel-level data manipulation techniques.
- Built a state-driven web interface for encryption and decryption workflows.

### Personal Portfolio Website

*May 2025 – Present*

*Independent Project*

- Developed a personal portfolio website from scratch using HTML and CSS to showcase projects and technical skills.
- Designed responsive and user-friendly UI components to ensure a clean and intuitive user experience.
- Implementing mobile and tablet compatibility to maintain consistency across devices.

## SKILLS

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**Programming:** Python, JavaScript, Java, HTML, CSS

**Technologies:** PyTorch, TensorFlow, Git

**Concepts:** Data Structures, Machine Learning Fundamentals, Data Processing

**Engineering Tools:** Autodesk Fusion 360, Autodesk Revit, VEX Robotics