MANN BELLANI

469-428-0616 | mannbellani1@gmail.com | Frisco, TX
mannbel.dev | github.com/Blueturboguy07 | linkedin.com/in/mannbellani

EDUCATION

Texas A&M University | College Station, TX   **December 2028**
Bachelor of Science in Computer Science, GPA: N/a
Campus Involvement: *TIDALTamu, Competitive Programming Club, Association for Computing Machinery*

TECHNICAL SKILLS

Technical Skills: *Proficient in SwiftUI, Data Structures & Algorithms, SQL, Java, C++, Python, TensorFlow, Jupyter Notebook, Git, Object Oriented Programming. Familiar with R, Wolfram, JavaScript, Node.js, CSS, HTML.*

EXPERIENCE

Southwest Airlines, Aggie Data Science Club   **October 2025 - December 2025**
Student Data Scientist
- Built a 0–100 Weather Risk Score using historical BTS and Meteostat data (2015–2025) to quantify weather-driven delay and cancellation risk for Southwest Airlines operations.
- Trained and evaluated multiple ML models (LightGBM, Neural Network, Logistic Regression) with techniques like SMOTE, early stopping, and hyperparameter tuning.
- Built a customer-facing Streamlit dashboard by integrating meteorological data with predictive modeling.
- Presented insights to stakeholders on measuring weather and disruption risks.

Brain Networks Lab, Texas A&M Engineering   **September 2025 - present**
Undergraduate Researcher
- Extending Deep Reinforcement Learning (DRL) frameworks with NEAT and custom neural architectures for adaptive tool manipulation in simulated environments.
- Engineering simulation pipelines to study neural circuits driving sensorimotor learning and emergent tool use.
- Employing heatmaps, network mapping, and visualization to interpret model behaviors and network topology.

Independent Study & Mentorship, Wakeland HS   **August 2023 - April 2025**
ISM II Student
- *Designed and trained CNNs for image classification with augmentation and dropout to improve accuracy. ~95%.*
- *Built a Flask-based ML app integrating CNN models for real-time inference.*
- *Engineered a Sindhi-to-English translation pipeline with RNNs, boosting BLEU scores via hyperparameter and attention tuning.*
- *Built end-to-end system with custom tokenization, embeddings, and seq2seq modeling in TensorFlow/PyTorch.*
- *Led a live AI workshop for 60+ participants, guiding Python/Jupyter setup and hands-on ML model building.*

FRC Robotics, Frisco, TX   **August 2022 - June 2025**
Mechanical Lead & Computer Vision Developer
- Led 15-member mechanical subteam, driving subsystem integration, rapid prototyping, and iterative testing.
- Developed an AprilTag computer vision pipeline for autonomous pathfinding and real-time robot localization.
- Engineered shooter, parallel linkage claw, and Swerve Drive subsystems, applying kinematic optimization and control systems integration.

PROJECTS

- ***FallGuy (1st Place @ tidalHack 2025)*** *– Built a privacy-preserving BLE mesh* **fall-detection system** *using real-time RSSI analytics and a TensorFlow LSTM (93% accuracy). Drove data engineering (multi-device acquisition, normalization, labeling) and made to edge-to-cloud architecture with automated discovery and resilient peer-to-peer streaming for IoT healthcare deployment.*
- ***Alertify*** *– iOS* **school safety app** *in UIKit integrating Core Location, Push Notifications, Firebase Authentication/Firestore for secure user data storage, and Twilio API to send real-time distress alerts with live GPS coordinates to emergency contacts; implemented background location tracking and low-latency message dispatch.*

HONORS AND AWARDS

Honors/Awards: Engineering Honors @ TAMU, National Merit Scholar, 3x DECA International Qualifier, 2x First Robotics State Qualifier, Certificate of Congressional Recognition.