

# Pinchen Chen

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## SUMMARY

Aspiring Machine Learning Engineer and Master of Data Science Candidate at UT Austin (GPA 3.93) with a mathematical foundation. Experienced in developing Deep Learning models for NLP and trajectory prediction and conducting rigorous statistical modeling. Proficient in leveraging Python and R to transform complex datasets into actionable insights through internship and project-based learning.

## EDUCATION

**Master of Data Science, University of Texas at Austin**  
**Department of Computer Science and Department of Statistics**  
**2026**

Jan 2024 - May

- **GPA: 3.93/4.00**
- Selected Coursework: Machine Learning, Deep Learning, NLP, Regression, Data Structures and Algorithms, EDA

Bachelor of Mathematics, Soochow University, Taiwan

Sep 2012 - Oct 2017

- Junior/Senior GPA: 3.62/4.00. **1st** place Academic Excellence Award in Single Semester

## SKILLS

**Languages:** Python, R, MATLAB, C++, JavaScript, MySQL

**Machine Learning and Libraries:** PyTorch, Transformer, scikit-learn, TensorFlow

## WORK EXPERIENCE

**Intern Data Analyst**, DataCo Solutions, Chicago.

Feb 2020 - Jun 2020

- Enhanced marketing and logistics strategies by implementing **Naive Bayes (R)** models, successfully reducing supply chain costs by 3.8%.
- Designed and developed an interactive **Shiny (R)** application to enhance data usability, translating complex analytics into user-friendly insights for stakeholders.

**Project assistant**, Institute for Information Industry, Taipei, Taiwan.

Jan 2017 - Oct 2017

- Built and refined a **TensorFlow**-based neural network system to improve semiconductor yield, focusing on high-precision classification.
- Collaboration with cross-functional teams to test system compatibility across Linux, Windows, and macOS, contributing to the project that won the R and D 100 Award in 2018.

## ACADEMIC PROJECTS

**Trajectory Prediction for Autonomous Driving** | [Link](#) | UT Austin: Deep Learning

- Implemented end-to-end machine learning workflows, architecting **MLP**, **Transformer**, and **CNN** models for object detection and waypoint prediction in the **SuperTuxKart** simulation.
- Integrated custom SmoothL1 loss functions and positional encoding, achieving a longitudinal error below 0.20 and lateral error < 0.55, meeting high-precision trajectory requirements for autonomous navigation.

**Natural Language Processing Paper Project** | [Link](#) | UT Austin: Natural Language Processing

- Constructed NLI models using targeted **fine-tuning** and **weighted ensembling** to enhance model robustness against biased datasets.
- Optimized the ensemble strategy to surpass SNLI baseline accuracy, achieving 89.90%.

**Global Space Exploration Trends Analysis** | [Link](#) | UT Austin: Data Exploration and Visualization (EDA)

- Visualized 60+ years of UN space data using R (sf, tidyverse), identifying the global shift from government-led to commercial spaceflight. Developed choropleth maps and dual-axis plots to highlight the exponential surge in U.S. private sector activity, revealing a over 300% increase in commercial launches post-2010.

**Full-Stack Development: DISC Personality Test**, Bachelor Project: Industry-Led DA in Practice

- Built a platform using Node-RED and MariaDB with a dynamic D3.js and JavaScript visualization interface.