

Casey Pei

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EDUCATION

Texas A&M University

BS. Computer Science, Minor Statistics

- Craig and Galen Brown Scholar, President's Endowed Scholar; **3.8/4.0 GPA**

May, 2025

College Station, TX

WORK EXPERIENCE

Arbin Instruments

Software Engineer Intern

May 2023 – Aug. 2023

College Station, TX

- Improved UI and functionality of **Python application** (used by +3000 clients) that generated connection diagrams.
- Created an **Electron and C# desktop application connected via API calls** for the testing department to use.

Texas A&M Health Science Center

Research Assistant – Bioinformatics

August 2022 – Present

Houston, TX

- Developed a **parallelized k-Nearest Neighbors** island-clustering program with **C++ and R** to detect methylation patterns of **68 million** DNA reads for preliminary research in early breast cancer detection, with publication in work.

ACTIVITIES

Aggie Coding Club (ACC) | Vice-President; previously Projects Chair

Aug. 2021 – Present

- Managed **40+** project managers and **450+** members using **Agile Project Development** and **Git/Github**.

Engineering Teaching Assistant Organization (TAO) | Vice-President

Aug. 2022 – Present

- Organized exam reviews (1k concurrent viewers) and taught +2.6k students **Python, NumPy and Matplotlib**.

AI4ALL | Changemaker, Apply AI, Discover AI

Jan. 2022 – Present

- Learned **AI/ML in Python**, final project to predict stock prices **with transformers and time embeddings**.

PROJECTS

Rev's Grill – Web App | PostgreSQL, Express.js, React, Node.js, Firebase, Google Translate API, OpenWeather API Full-stack Developer

- Designed a **PERN full-stack web application** for restaurants that stores 12 months of order and inventory data.
- Implemented dynamic menu edits, order creation, and report generation (csce-315-project3-team51.vercel.app).

CarryOn | React (Reactstrap), Python (TensorFlow, Selenium), Microsoft Azure Cloud, Figma Project Lead

- Implemented a **Selenium web scraper** to extract luggage guideline information from the Transportation Security Administration website and **React** application for users to input typed luggage information.
- Applied **TensorFlow Natural Language Processing** to process items and check validity of users' luggage lists.

Crawler.txt | C++, Windows API

Lead Designer

- Built a **multi-threaded parallelized program** in **C++** using the **Windows API** to identify and find keywords, which achieved a rate of +900 MB/s or +100M words/s at 99% CPU usage when tested on Wikipedia.

AWARDS AND HONORS

- **3x Winner at TAGD Game Jam** – (Best Programming, 1st Place, Best Design, Best Sound Design)
- **Best Visuals at Chillenium Game Jam 2023** – (55 submissions, 200+ participants).

TECHNICAL SKILLS, RELEVANT COURSEWORK & INTERESTS

- **Languages:** C/C#/C++, Python, R, JavaScript, Java, SQL (Postgres), HTML/CSS
- **Frameworks and Technologies:** pandas, TensorFlow, Electron, React, Node, Flutter, Unreal Engine, Git, Docker
- **Relevant Coursework:** Data Structures and Algorithms, Design and Analysis of Algorithms, Object-Oriented Programming, Software Engineering, Compilers, Distributed Systems, Statistics II, Linear Models