Casey Pei

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EDUCATION

Texas A&M University **Aug. 2021 – May 2025**
B.S. Computer Science, Minor Statistics (Honors) *College Station, TX*
- Craig and Galen Brown Scholar, President's Endowed Scholar, National Merit Scholar GPA: 3.8/4.0

WORK EXPERIENCE

Arbin Instruments **May 2023 – Aug. 2023**
Software Engineer Intern *College Station, TX*
- Refactored diagram design software in **Python**, reducing time spent manually designing by **98%** for **3k+ clients**
- Designed enterprise-grade **Electron** employee monitoring application with **REST API endpoints**, embedded **ASP.NET** core and **Access Database**, decreasing time spent manually tracking employee tasks by **70%**
- Effected modern redesign of proprietary MITS X software from **WinForms** to **Electron** with **TypeScript** and **React**

Texas A&M Health Science Center **Aug. 2022 – Present**
Research Assistant – Bioinformatics *Houston, TX*
- Developed **parallelized kNN** island-clustering program with **C++ and R** used on **68M+** DNA reads processed on a **Linux high-performance computing cluster**, for use in an in-progress publication on early breast cancer detection
- Created **R script** to identify unique cycle features in diseased ECG reads, lowering time on manual analysis by **80%**

ACTIVITIES

Aggie Coding Club (ACC) | *Vice-President; previously Projects Chair* **Aug. 2021 – Present**
- Implemented **Git Workflows** for and trained **40+** project managers and **450+** members in **Agile Development**
- Increased accessibility for **2k+** viewers by adding dark mode to club website with **EJS, TypeScript** and **SCSS**

Engineering Teaching Assistant Organization (TAO) | *Vice-President and Webmaster* **Aug. 2022 – Present**
- Organized reviews on **Python, NumPy** and **Matplotlib** for **1k+** students, improving grades by **30%** from prior years
- Produced **SEO friendly** club website with **Next.js, Typescript, Tailwind CSS** and **React** for **10k+** overall viewers

AI4ALL | *Changemaker, Apply AI, Discover AI* **Jan. 2022 – Present**
- Created **machine-learning trading model** on **14k+** trading days using **transformers** and **time embeddings** implemented using **Keras, TensorFlow, Pandas** and **NumPy**, with a validated Mean Average Error of **0.028**

PROJECTS

Rev's Grill | *Full-stack Developer*
- Designed a **full-stack** restaurant order/inventory management using **PostgreSQL, Express.js, React** and **Node.js**
- Improved customer experience with reports generated on **12** months of data, **Google Translate API** and **OAuth**

CarryOn | *Project Manager*
- Constructed a mobile-friendly **React** web application hosted on **Microsoft Azure** for users to input luggage lists
- Used **TensorFlow Natural Language Processing** to validate user luggage against **400+** luggage guidelines extracted with **Selenium** from the TSA website, to both improve efficiency of airport checking and reduce human error

Electify | *Project Manager, Full-stack developer*
- Built an **Android/IOS app** using **Dart** and **Flutter** to simplify access to quality political knowledge among teenagers
- Streamlined user-experience with **OAuth** with **Firebase**, recommendations via **TensorFlow** and **Material UI** frontend

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

- **Languages:** C/C#/C++, Python, R, TypeScript/JavaScript, Java, Dart, SQL (Postgres), HTML/CSS
- **Frameworks and Technologies:** React, Node.js, Electron, pandas, TensorFlow, Flutter, Unreal Engine**,** Git, Docker
- **Relevant Coursework:** Software Engineering, Statistics II, Linear Models, Distributed Systems, Computer Systems