Tony Enrique Astuhuaman Davila

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Programming Languages: Python, C/C++, JavaScript, TypeScript, Java, SQL, HTML, CSS, Swift, Kotlin

Frameworks: FastAPI, Flask, React, PyTorch, OpenCV, TensorFlow, Keras, scikit-learn, NumPy, Pandas, Django, Firebase

EDUCATION

Missouri State University   **August 2021 - May 2024**

Bachelor of Science in *Computer Science*, minor in *Mathematics* (Honors College)

- Secured an $8000 International Transfer Scholarship by demonstrating academic excellence and proficiency in English.
- Founded Bears In Tech & ACM Chapter, fostering local ACM partnerships, building community among CS students.
- Represented Missouri State University in algorithmic competitions, notably the ICPC Mid-Central 2023 & 2024.
- Relevant Coursework: Data Mining, Unsupervised Learning, Data Structures and Algorithms, Database Systems, Software Engineering, Statistics, Multivariable Calculus, Discrete Math.

Stanford University - *Stanford Center for Professional Development.*   **June 2023 - August 2023**

- Enrolled in CS221: Artificial Intelligence Principles and Techniques through the Tuition Waiver Program.

RELEVANT EXPERIENCE

Missouri State University - Computational Learning Systems Lab   **January 2024 - Present**

Bioinformatics Research Assistant Under Dr. Tayo Obafemi-Ajayi   Springfield, MO

- Engaged in cutting-edge bioinformatics research on mTBI, focusing on the analysis of blood biomarker trajectories using numpy and matplotlib for data visualization and statistical analysis.
- Developed and implemented K-means clustering algorithms to categorize mTBI cases, enhancing the precision of clinical prediction tools through the application of machine learning models, including autoencoders.
- Contributed to the lab's research output by analyzing and presenting findings on data-driven techniques, significantly advancing the understanding of biomarker patterns in mTBI diagnosis and treatment.

Missouri State University - Security and Artificial Intelligence Lab   **September 2022 - Present**

Research Assistant Under Dr. Yassine Belkhouche   Springfield , MO

- Developed virtual classroom engagement through 3D face reconstruction from 2D imagery using Flame model and Pytorch, culminating in lifelike virtual presence and interactions.
- Designed a real-time hand gesture recognition system for UAV navigation using Google's MediaPipe and Tensorflow, achieving a significant enhancement in user interaction and drone control efficiency.
- Co-authored a research project on UAV gesture control and presented findings at CNAS Spring Symposium 2023, emphasizing the model's high accuracy and real-time performance.

Missouri State University - Association for Business Information Technology Students   **May 2022 - August 2022**

Back End Developer Intern   Springfield, MO

- Developed a REST API for secure payment processing, integrating Stripe API, enhancing financial transactions.
- Collaborated in an Agile/SCRUM team environment, contributing to continuous integration and delivery pipelines.
- Crafted comprehensive unit tests for new features, resulting in a 15% decrease in bugs per release cycle.

PROJECTS

MePart | **Github Repo** | **Devpost**

- Engineered a video content analysis application using OpenAI's GPT-3.5 turbo model to automatically generate accurate transcripts, extract insights, and conduct sentiment analysis.
- Designed and implemented a responsive frontend using React, and a backend with FastAPI, ensuring seamless integration and real-time data processing.
- Achieved deployment within a stringent 36-hour deadline during the UC Berkeley AI Hackathon, demonstrating rapid development skills.

Sticky Sign | **Github Repo** | **Devpost**

- Developed an augmented reality tool to facilitate American Sign Language (ASL) learning, employing Python, OpenCV, and Pygame for real-time color detection and sign recognition.
- Created a user-friendly interface that allows users to interact with the system through webcam input, making the learning process interactive and engaging.
- Conducted extensive testing to optimize the recognition algorithms, improving accuracy by 20% for dynamic sign language interpretation.

Chess AI | **Github Repo**

- Programmed a Chess AI utilizing TensorFlow and a CNN model, capable of predicting opponent moves and suggesting strategic counteractions.
- Integrated the AI into a Flask-based web platform, providing an interactive experience for users to play against the AI with a real-time updating chessboard.
- Deployed the application on Vercel, ensuring high availability and low latency, which enhanced user engagement and doubled return visits.