

Oscar Wu

Link to Portfolio Website [↗](#)

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PROGRAMMING SKILLS

• **Languages:** Python, Bash, SQL, Markdown, R

Technologies: Git, VS Code, Tableau, Obsidian, Zotero

PUBLICATIONS

- **Zanoaga O, Jurj A, Raduly L, et al.:** Implications of dietary ω -3 and ω -6 polyunsaturated fatty acids in breast cancer. *Experimental and Therapeutic Medicine*. 2018;15(2):1167-1176. doi:10.3892/etm.2017.5515. [↗](#)

HONORS & AWARDS

- **National Honors & Awards:** (2020) Phi Beta Kappa Honor Society, (2019) **National Barry S. Goldwater Scholar** (from previous research in Dr. Laurie Glimcher's laboratory at Dana-Farber Cancer Institute.) See here: [↗](#)
- **Research Honors & Awards:** (2021) UTSW Medical Student Summer Research Program, (2019) Best Poster Award for Community Development/Public Service by the AMA, (2019) Outstanding Contribution to the Greater Community Award, (2017) 2nd Place Poster at Molecular Neurosciences & Systems: From Nucleotides to Networks Symposium, (2016) Best Visual Presenter-Biosciences Division of Gulf Coast Undergraduate Research Symposium

RESEARCH EXPERIENCES AT UT SOUTHWESTERN MEDICAL CENTER

- **GPTFusion - AI Chatbot** [↗](#)
Multi-Model Integration & Dynamic Interactions *Dept. of Radiology (2023)*
 - **Document Integration:** Tailored document integration and conversation history management with Gradio, Python, and OpenAI API.
 - **Vector Index:** Efficiently ingested unstructured data from PDFs, CSVs, TXTs, and SQL databases files.
 - **File Subsets:** Enabled users to specify subsets of ingested files for NLP operations.
 - **Conversation History:** Extended GPT API to retain and call prior user-defined prompts and responses.
- **Advanced Facial Image Morphing** [↗](#)
Latent Space Interpolation with StyleGAN2 & Dlib ResNET *Dept. of Radiology (2023)*
 - **Pipeline:** Developed an end-to-end pipeline for smooth morphing video generation.
 - **StyleGAN2:** Produced realistic and high-quality face morphing videos.
 - **Facial Landmark Detection:** Automated detection and cropping for improved compatibility.
 - **Google Colab:** Implemented a seamless pipeline with GPU support for widespread use. Link to notebook [↗](#)
- **Socioeconomic Impact of COVID on Parkland ED Patients** [↗](#)
COVID 2020 Time Series Analysis *Dept. of Global Health (2022)*
 - **Health Equity Index:** Identified areas of highest need to advance equitable outcomes.
 - **Advanced Time Series Techniques:** Used ClaSP segmentation and Dynamic Time Warping for structural changes and optimal alignments.
 - **Population Patterns:** Examined trends during shelter-in-place duration and recovery.
 - **Data Analysis:** Utilized heatmaps, warping path plots, and Pearson correlation for patient data analysis.

PROJECTS

- **An End-to-End Pipeline for Scientific Writing** [↗](#)
Multi-tool and Multi-language Optimization of Literature Reviews *2023*
 - **Multi-Language Support:** Integrated multiple programming languages (JavaScript, Python, SQL) and research tools (Obsidian, VS Code, Zotero) to create an efficient and unified research workflow.
 - **OCR with PyTesseract:** Extracted corpus of research text from images and PDFs and indexed for quick access.
 - **Links and Knowledge Graph:** Connected notes, visualized relationships, and applied graph algorithms for community detection of important research topics.
 - **Git Synchronization and Ubiquitous Exports:** Automated file sync with Git, GitHub and exported documents linked to BibTeX references in Zotero.

EDUCATION

- **University of Texas at Southwestern School of Medicine** Dallas, TX
M.D. Candidate (522/528 MCAT) *Aug. 2020 – May 2023*
- **Texas Tech University (Combined BA/MD Program)** Lubbock, TX
BSc in Microbiology, Summa Cum Laude (3.97/4.00 GPA) *Aug. 2016 – June 2020*
- **Margaret Long Wisdom High School** Houston, TX
Valedictorian, National Merit Finalist (2380/2400 SAT) *Aug. 2012 – May 2016*