

STELLINA AO

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EDUCATION

M.S. in Bioengineering, University of California, Los Angeles <i>GPA:</i> 4.0 <i>Advisor:</i> Dr. Anne Churchland	Sep 2024 – Jun 2026
B.S. in Computer Science (<i>Honors</i>), California State University, Los Angeles <i>GPA:</i> 4.0 <i>Advisors:</i> Dr. Deborah Won, Dr. Yixian Wang, Dr. Jie Zhong <i>Minors:</i> Biomedical Engineering, Mathematics <i>Honors Thesis:</i> Reading Minds, Restoring Mobility: Exploring the Efficacy of Beta Regression and Fractal Dimension in Decoding Imagined Grip Force Levels (link)	Aug 2020 – May 2024

EXPERIENCE

Graduate Researcher @ Churchland Lab	Jun 2025 – Current
<ul style="list-style-type: none">Study neural substrate for changes in decision-making strategies through normative aging, from model-based to model-freeUse pose-estimation techniques to quantify behavioral changes with different decision-making strategies Skills: BehaveNet, LightingPose, DeepLabCut, PyTorch, Bash, Python	
Graduate Researcher @ Mehta Lab	Sep 2024 – Jun 2025
<ul style="list-style-type: none">Study neural utility of hippocampal barcodes in encoding visual spatiotemporal information, using Python and the AllenSDK to analyze spike trains recorded with Neuropixels from rats passively viewing movies Skills: Neurobehavioral Data Analysis, Machine Learning, AllenSDK	
Trainee @ Stanford Behavioral Pharmacology Workshop	Jun 2024
<ul style="list-style-type: none">Learned to design and conduct behavioral pharmacology studies through hands-on experiments and theoretical lectures at the Stanford Behavioral and Functional Neuroscience LabSelected as one of ten participants from 80+ applicants Skills: Behavior (Morris Water Maze, Fear Conditioning, Open Field), Scruffing and Dosing, GraphPad Prism	
Research Assistant @ NETLab, Brain-Computer Interface Group	Jan 2022 – May 2024
<ul style="list-style-type: none">Led study on neural encodings of motor intent to develop more efficient software for brain-computer interfacesDeveloped a novel algorithm using beta regression and fractal dimension to decode imagined grip force levelsMentored five students on experimental design, EEG acquisition, and machine learning algorithm development Skills: Surface Electroencephalography, Machine Learning, Signal Processing, MATLAB, Python, Jupyter	
Data Processing Team Lead @ Wang Research Lab, NSF CREST-CATSUS Fellowship	Mar 2022 – May 2024
<ul style="list-style-type: none">Led a team of four in creating a template-matching algorithm with normalized cross-correlation to evaluate interactions between nanoparticles and neuroblastoma, achieving a 10x quicker runtime & decrease from $O(n^3)$ to $O(n^2)$Developed novel derivative-based pipette contact detection technique to demonstrate the effect of colorimetric modules on plasmonic electrochemical microscopy Skills: Signal Processing, Image Processing, Optimization, Algorithm Development, MATLAB, ImageJ	

MANUSCRIPTS

[1] Garcia A., Dhoj C., Groysman S., Wang K., **Ao S.**, Anguiano A., Tran T., Jiang D., Wang Y. (2024). Prussian blue nanofilm-sensitized plasmonic electrochemical microscopy for spatially resolved detection of the localized delivery of hydrogen peroxide. *Sensors and Actuators Reports*.

SKILLS

Technical: Python, MATLAB, C/C++, Java, HTML, CSS, JavaScript, MySQL, LabVIEW, R, Excel VBA
Languages: English (native), Chinese (native), Korean (advanced), Spanish (intermediate), Japanese (beginner)

COURSEWORK

NEURO 220: Neurobiology of Learning and Memory	@ UCLA	A+	Mar 2025 - Jun 2025
NEURO 201: Cellular and Developmental Neuroscience	@ UCLA	A+	Mar 2025 - Jun 2025
NEURO 203: Neuroanatomy	@ UCLA	A+	Jan 2025 - Mar 2025
NEURO 205: Systems Neuroscience	@ UCLA	A+	Jan 2025 - Mar 2025
NEURO 202: Cellular Neurophysiology	@ UCLA	A+	Sep 2024 - Dec 2024
BE 275: Machine Learning in Bioengineering	@ UCLA	A+	Sep 2024 - Dec 2024
CS 229: Machine Learning	@ Stanford Engineering Everywhere		Jun 2023

TEACHING

BE 175: Machine Learning in Bioengineering (<i>TA</i>)	@ UCLA	Mar 2025 - Jun 2025
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FELLOWSHIPS, AWARDS, & HONORS (*selected*)

Outstanding Undergraduate in Computer Science (<i>1 from graduating class of 200+</i>)	May 2024
Honors Convocation Speaker (<i>equivalent to commencement speaker</i>)	May 2024
NSF CREST-CATSUS Fellowship	Aug 2021 – Jul 2024
Dean's List	Aug 2020 – May 2024
CSULA Student Symposium - Outstanding Oral Presentation, CSULA Delegate	Mar 2024
Aerojet Rocketdyne Scholarship (<i>1 of 3 from ~1,000</i>)	Jun 2023

PRESENTATIONS (*selected*)

<i>CSU Student Research Competition [CSULA Delegate]</i>	Apr 2024
“Reading Minds, Restoring Mobility: Beta Regression to Decode Grip Force Intent Using Fractal Dimension”	
<i>CSULA Student Symposium 2024 [Outstanding Oral Presentation]</i>	Mar 2024
“Reading Minds: Beta Regression to Decode Grip Force Intent from Neural Activity Using Fractal Dimension”	
<i>American Mathematical Society-Joint Mathematics Meetings [+ awarded JMM travel grant]</i>	Jan 2024
“A Beta Regression Model Decoding Force Intent from Electroencephalography with Fractal Dimension”	
<i>CSULA Student Symposium 2023</i>	Mar 2023
“Development of a Noninvasive EEG Acquisition System for Neural Decoding”	
<i>CSU Biotechnology Symposium</i>	Jan 2023
“A System for a Computational Forward Model of Surface Electroencephalograms Encoding Movement”	