

OM KHERDE

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EDUCATION

The University of Texas at Austin	Bachelor of Science in Neuroscience Honors Polymathic Scholars Honors Certificates: Computer Science, Evidence and Inquiry (Brain-Computer Interface Concentration) GPA: 4.0	May 2029
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EXPERIENCE

UT Southwestern Medical Center – Dr. Bradley Lega (Lega Lab) Researcher; Dallas, TX	May 2026 – Aug 2026
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- Engineering a real-time Python/Simulink pipeline streaming 256-channel intracranial EEG at 30 kHz for closed-loop neuromodulation
- Implementing gamma-band (65–90 Hz) power estimation with Butterworth filters, outputting at 25 Hz with a 1–3 μ V noise floor
- Developing validation software benchmarking real-time output against MATLAB reference to certify pipeline latency for patient use

Longhorn Neurotech – Researcher; Austin, TX	August 2025 – Present
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- Developing EEG-based motor imagery classification pipelines on human neural data using OpenBCI headsets for replicable data
- Evaluating feature extraction and filtering strategies on datasets, improving testing class separability during motor imagery tasks
- Building Kalman, Common Spatial Pattern (CSP) implementations to improve imagery accuracy to 95% while minimizing filter noise

Virtual Drug Screening Lab – Dr. Josh Beckham (VDS Lab) Researcher; Austin, TX	August 2025 – Present
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- Conducting computational drug discovery research using structure-based virtual screening to evaluate small-molecule inhibitors
- Performing wet-lab centrifugation, titration, and virtual modeling experiments on disease-relevant targets for in-vitro validation
- Analyzing screening results to prioritize candidate compounds based on specificity and target efficacy under Dr. Josh Beckham

Southern Methodist University Governor's Science and Technology Academy – Invitee; University Park, TX	July 2025
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- 1 of 63 / 20,000 students selected for Texas's STEM Accelerator Initiative sponsored by the Texas Workforce Commission (TWC)
- Spearheaded signal processing research of "Single-Channel EEG-Based Classification of Cognitive State" under Dr. Davila @ SMU ECE
- Selected from 20,000 statewide projects for a fully funded SMU scholarship + 2K grant recognizing excellence in scientific innovation
- Developed 2 machine learning frameworks to analyze EEG data, enabling precise differentiation between mental states in the brain

Mayo Clinic – Dr. Thomas Caulfield (Drug Discovery Lab) Student Intern; Jacksonville, Florida	April 2024 – January 2025
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- Led 10 in-silico simulations, validating a novel Alzheimer's target and advancing Mayo Clinic's future drug discovery research pipeline
- Integrated 5 deep learning models, boosting software predictive accuracy by 25% and streamlining Alzheimer's candidate selection
- Optimized 4 protein modeling workflows, cutting modeling analysis time by 30% and improving lab efficiency across research teams

St. Jude's Children's Research Hospital – Mentee; Remote	June 2024 – October 2024
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- Analyzed 10+ Alzheimer's project reports, translating complex protein data into actionable insights for research decision-making
- Collaborated with Dr. Caulfield and Dr. Baviskar to produce 3 Attention-Based Neural Networks for rapid target identification

INDEPENDENT WORK AND ACADEMIC PROJECTS

Independent Researcher – Researcher; Little Elm, TX	Apr 2021 – Present
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- Designed Convolutional Neural Network (CNN) models achieving 87% accuracy in Alzheimer's detection from 5,000+ cross sections
- Authored literature review of 50+ peer-reviewed studies, creating a project proposal submitted to MIT THINK/GENIUS Olympiad
- Predicted 5 functional networks for the LRRC30 gene function in diabetes mellitus in 3 key pathways alongside Dr. Micaela Vargas

Blueprint College Consulting – Founder; Frisco, TX	Apr 2021 – Present
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- Managed 20+ client relationships end-to-end, developing analytical and strategic sales, marketing, and bootstrapping funding skills
- Founded and led an advising initiative serving 10+ students; scaled business to reach 30k impressions within 1 month

ADDITIONAL

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- Honors: 4x USA Taekwondo National Champion (1st, 2nd, 3rd, 1st), 2x DECA ICDC Qualifier, Texas Science and Engineering Fair 2nd Place (Comp. Bio), Fort Worth Invitational Fair Winner (CS), International Breakthrough Junior Challenge Top 20%, Sigma Xi Commended Research Scholar (iFore' 24), YCML Presenter
 - Technical Skills: NumPy, Excel, SEO, STRING, EEG/EMG Data Analysis, MATLAB, Python, MNE, R, C++, C, Signal Processing
 - Languages: Intermediate Marathi, Intermediate Hindi, Novice Spanish
 - Work Eligibility: Authorized to work for any U.S. employer