

Mauro Malekshamran

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EDUCATION

San Diego State University	May 2027 (Expected)
Master of Science in Computer Science	
California State University of San Marcos	May 2025
Bachelor of Science in Computer Science	

EXPERIENCE

Undergraduate Research Assistant	Mar 2025 - Jun 2025
California State University of San Marcos	San Marcos, CA
<ul style="list-style-type: none">Developed a Python/MATLAB game-theoretic model with 5,000+ simulations across 11 equilibria to identify cheat-pricing strategies, projected to cut unfair-play by 20%Performed sensitivity analysis on player utility and pricing, evaluating 7 key market scenarios to quantify how pricing tweaks can shift hacker market share, forecasting a 15% drop in cheat adoption under revised policies	
Computer Science & Mathematics Tutor	Aug 2024 - May 2025
CSUSM STEM Success Center	San Marcos, CA
<ul style="list-style-type: none">Tutored 150+ students one-on-one in C++, Python, MIPS Assembly delivering over 200 hours of personalized sessions on data structures, algorithms, and debugging, driving an average 35% grade improvementOrganized 10+ targeted C++ and Calculus workshops for 20+ students, authoring practice exams and reviewing 400+ assignments, boosting average exam scores by 25%Collaborated with faculty and peers to identify common learning gaps, implementing focused review sessions that helped over 85% of attending students improve at least one letter grade in STEM courses	
Member, IEEE Student Branch & Vice President, LeetCode Club	May 2024 - May 2025
California State University of San Marcos	San Marcos, CA
<ul style="list-style-type: none">Ran weekly LeetCode Python sessions via VSCode Live Share for 20+ members, fostering a collaborative environment where 25+ tech students shared resources, experiences, and best practices, leading to a 20% average improvement in challenge completion ratesCollaborated with clubs to facilitate university-wide hackathons with 40+ participant, assisted in grading 60+ coding challenge submissions and providing constructive feedback	
Coding Instructor	Jan 2023 - Aug 2024
Rock Creek Education	Vista, CA
<ul style="list-style-type: none">Instructed 120+ elementary and middle school students in Python and C++ through 150+ hours of interactive, STEM-aligned curriculum, strengthening core problem-solving and computational thinking skillsDesigned and facilitated 15+ project-based learning workshops where students developed 100+ functional coding projects, resulting in a 40% average improvement in code accuracy, debugging proficiency, and creativityCreated customized lesson plans, gamified challenges, and differentiated instruction to match individual learning styles, boosting student engagement by 35% and fostering early interest in computer science	

PROJECTS

Nutri-Snap React Native, Expo, TypeScript, Flask, Python, Supabase, YOLOv5	Aug 2024 - Jan 2025
<ul style="list-style-type: none">Created a mobile nutrition tracker leveraging a custom YOLOv5 object detection pipeline trained on 211 food classes with annotated bounding boxesDeployed the model in a Flask inference API, achieving sub-2s end-to-end latency and ~92% mAP on the validation setIntegrated Supabase for auth, RLS-secured data persistence, and real-time food log syncing across devicesPost-processed model outputs (class label, confidence, bbox) to trigger USDA API queries and visualize macro-level nutrient data with dynamic donut and bar chartsBuilt and hosted the full inference pipeline with Flask for preprocessing, model inference, and response delivery to app	

TECHNICAL SKILLS

Languages: Python, C/C++, JavaScript, TypeScript, SQL, MIPS Assembly, Go
Frameworks & Libraries: TensorFlow, Keras, PyTorch, scikit-learn, Pandas, NumPy, Django, Flask, Pygame, OpenCV, Yolo
Tools & Services: GitHub, Linux/Unix, AWS, Azure, CI/CD, Docker, REST APIs, VS Code, Firebase
Databases: MySQL, PostgreSQL, Firebase, Supabase
Machine Learning & AI: LLMs, Prompt Engineering, Computer Vision, Model Validation/Testing, Workflow Automation, Yolo