JEREMY JUNMING WEI

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MATHEMATICS-COMPUTER SCIENCE | UC SAN DIEGO

EDUCATION

University of California, San Diego — **Expected Jun 2029**
B.S. Mathematics-Computer Science | GPA: 4.00/4.00 — *La Jolla, CA*
66 UC San Diego quarter units completed in the first year

Honors: UCSD Provost Honors; AMC 12 Distinguished Honor Roll (top 1%); AIME score: 9/15
Completed coursework: Probability, Linear Algebra (UCLA Extension), Data Structures, Systems Programming.
In progress - Fall 2026: Machine Learning (CSE 151A), Computational Physics II (PHYS 142), Enumerative Combinatorics (MATH 184).

RESEARCH & ENGINEERING EXPERIENCE

HOPE Embodied AI Challenge | Hitch Open · Project Portfolio ↗ — **Jun 2026 - Aug 2026**
Robotics Team Member & Competition Organizer | Four-person student team — *Shanghai & Beijing, China*
Autonomous humanoid table tennis; showcased at WAIC 2026 and competed at the 2nd World Humanoid Robot Games.

- Proposed and helped implement a net-crossing-triggered C++ planner using quadratic fits to predict landing positions; resolved serve/return bounce-history ambiguity and suppressed commands for failed net crossings.
- Designed and tested 6 OptiTrack marker layouts, balancing pose accuracy, orientation disambiguation, and ball dynamics; supplied 30 handmade eight-marker balls to university teams, then finalized a ten-marker design.
- Owned OptiTrack deployment for the Berkeley team: built rigid bodies, tested over ten layouts, and calibrated a table-aligned ten-camera setup; diagnosed partial-marker failures and validated varied spins and shots.
- Manually developed three predefined humanoid serve motions in MuJoCo: tested 100 combinations of racket orientation and contact speed with perturbations for qualification; adapted human serve references into joint-space trajectories for two primary competition motions, retaining the qualification motion as a secondary option.
- Synthesized four paper reviews and peer-team videos into policy experiments; proposed upper-body-only imitation with reward-learned lower-body balance and excluded the wrist from imitation rewards. Both changes were retained after modest gains in balance and strike accuracy.
- Used Foxglove logs and robot videos to trace failures; observed up to 3 cm of post-recovery hit-plane/base offset and at least 20 cm of lateral pelvis drift; scripted orphaned-process cleanup to stabilize OptiTrack runs.

GALBOT — **Jun 2025 - Sep 2025**
Research Intern | Embodied AI / Reinforcement Learning — *Beijing, China*

- Completed 18 UC Berkeley CS 285 lectures and produced supervisor-reviewed mathematical derivations of core reinforcement-learning results, spanning policy gradients, actor-critic methods, imitation learning, and offline RL.
- Built Linux terminal fluency from scratch; configured Ubuntu/Conda environments, managed dependencies and CPU/GPU-specific build requirements across machines, and troubleshot DeepMimic.
- Reviewed five robotics/RL papers, shared findings in weekly technical discussions, and published five Medium explainers summarizing technical concepts for broader audiences, totaling 870 reads.

SELECTED PROJECT

Activation Functions in an MNIST Neural Network
Mathematics Extended Essay | Singapore International School (Hong Kong)

- Investigated how activation-function choice affected accuracy in an MNIST neural network incorporating Conv2D, max-pooling, dropout, and dense layers.

LEADERSHIP & MENTORING

Math Cube | Executive Committee Member | SISHK — **Grades 11-12**

- Revived a dormant math club, grew it to dozens of members, and led meetings; designed an interhouse contest featuring ideas such as modular arithmetic.
- Mentored two Grade 7 students, one of whom qualified for AIME; taught two AMC 8 seminars, with three participants earning Distinguished Honor Roll.

TECHNICAL SKILLS

Languages: C/C++, Python, Java | **Robotics / Systems:** ROS 2, Linux, Git, MuJoCo, OptiTrack/NatNet, Foxglove

HOPE links: hitchopen.ai • github.com/hitchopen/HOPE