JAMES WENG

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EDUCATION

University of Illinois at Urbana-Champaign (U Illinois) Aug 2024 - Dec 2026
Bachelor of Science in Computer Science + Education (Learning Science) GPA: 3.81/4.00
Grainger College of James Scholar Honor · Dean List Fall 2025 - Present

Massachusetts Institute of Technology (MIT) Summer 2023
Game Lab Summer School
Courses: Introduction to Time Series Modeling with Applications in Economics and Public Health

Stanford University, Scholar AI4ALL Summer 2020
- Immersed in AI through lectures, hands-on research projects, and mentoring activities
- Engaged in small-group research projects led by graduate students and post-docs in Computer Science and AI

EXPERIENCE

Siebel School of computing and Data Science (SSCDS), U Illinois Champaign, IL
Course Assistant (CS124) Aug 2025 – Aug 2026
- Guide 300 students through problem decomposition on assignments spanning data structures, algorithms, and programming
- Identify and address conceptual gaps through weekly office hours; translate complex technical concepts for diverse learning backgrounds

Shenzhen Smart City Technology Development Group Shenzhen, China
Software Engineering Intern Summer 2026 – Present
- Built a patent-pending stress/fatigue crowd model and debug dashboard in C++ on Unreal Engine 5.
- Extended the C++ crowd-navigation plugin with doorway flow limits, queue-aware exit costs, and an SFM/FIFO mode switch.
- Built headless regression testing for the simulator: fixed-timestep runs, command-line test flags, and a SHA-256 check that proved runs byte-identical (57,754 trajectory rows); cut each round from ~40 to ~5.5 min.
- Found latent defects by code audit, e.g. two subsystems writing one speed channel so the model could never change agent speed; shipped the fix behind a flag and verified it with bit-exact regression.

Undergraduate Research Scientific Advancement (URSA) Champaign, IL
Webmaster/Secretary Fall 2026 - Present
- Maintain and update the website, and reply emails for questions

RESEARCH

Department of Educational Psychology Champaign, IL
Undergraduate Researcher -- Effect of College education on Social-Emotional Development Spring 2026
- Contributing to a study examining the causal effect of college education on Social, Emotional, and Behavioral (SEB) skill development across a 30,000-person longitudinal dataset
- Supporting research design, data organization, and pipeline setup for Causal Forest modeling (AIPW framework) targeting peer-reviewed publication

Undergraduate Research Scientific Advancement (URSA) Champaign, IL
Undergraduate Researcher -- LLM-Based Mathematical Equation Relation Extraction Spring 2026
- Completed 100+ annotations for a mathematical derivation graph dataset; contributions support model training for LLM-based equation relation extraction
- Contributed to annotation methodology and dataset quality assurance
- Developed the MIDGARD Voting Ensemble to combine repeated LLM runs and predictions from different extractors, with configurable voting thresholds and per-article vote counts for partial coverage

PUBLICATIONS

Mathematical Derivation Graphs: A Relation Extraction Task in STEM Manuscripts
Vishesh Prasad, Brian Kim, Petr Myagkov, Taarush Goswami, Daniel Thaisz, **James Weng**, Nickvash Kani
Submitted to ACL Rolling Review (ACL ARR), May 2026. Long paper.
https://openreview.net/forum?id=Z1BIcq3OfW

PROJECTS

Question Everything — Critical Thinking in the Age of AI May 2026 – Present

Curriculum Designer & Developer

- Designed 24 bilingual (English and Simplified Chinese) lessons for ages 6–15 on evaluating evidence and verifying AI-generated claims, with facilitator guides, worksheets, and pre/post assessments
- Built a 12-unit self-paced web course for ages 6–11 with interactive cases and prompts to explain and revise reasoning

OhMyTSS (SWIFT) Nov 2025 - Present

Co-Founder | Developer

- Integrated Apple HealthKit API to ingest and process wearable workout data in real time, transforming raw sensor streams into readiness and training-load insights with on-device, privacy-first architecture
- Diagnose user-reported issues, implement data parsing and validation fixes, and ship stability improvements to active user base

Power Ruler & Heart Rate Ruler | Garmin Connect IQ 2026

Designer & Developer

- Designed and published two Garmin Connect IQ data fields that pair live power or heart rate with a visual training-zone indicator, so cyclists can check at a glance whether they are riding within their target zone
- Integrated the power-zone indicator into the same field as Garmin's Power Group metrics, freeing a screen slot for other ride data

Meeting Minion — AI Meeting Summarizer (Python) Aug 2025 – Jan 2026

Team Lead & Developer, SSCDS, U Illinois

- Led full lifecycle development of a production backend system with real users: designed architecture, coordinated cross-functional team, and deployed end-to-end transcription and summarization pipeline
- Integrated third-party LLM (Ollama) and WhisperX transcription model with SQLite persistence layer; enforced engineering standards via CI/CD, PR reviews, and pytest suite (64+ tests, 100% pass rate)

Seizure Prediction Wristband — Patented Device (C/C++) 2022 – 2024

Initiator & Team Lead

- Built end-to-end ML pipeline for real-world medical application: collected and processed heart rate and humidity sensor data, engineered time-series features, and trained a classification model validated via cross-validation to detect pre-seizure patterns on-device
- Managed full project lifecycle from hardware prototyping to algorithm deployment; resulted in registered German utility patent (DE 20 2023 107 669) and peer-reviewed publication in Highlights in Science, Engineering & Technology (2023)

ACTIVITIES & AWARDS

Contests and Competitions

- American Invitational Mathematics Examination (AIME) — 11/15 2023
- American Mathematics Competition 12 (AMC 12) — Top 1% (135/150) 2022
- USA Computing Olympiad (USACO) — Gold Division 2021-2022