Yann Hicke

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Education

Ph.D. Computer Science, Cornell University — 2022 - Present
- Advised by Claire Cardie and Rene Kizilcec

M.Eng. Operations Research and Information Engineering, Cornell University — 2015

B.S. Applied Mathematics and Industrial Engineering, Mines Nancy — 2014

Professional Experience

Creator & Project Lead, MedSimAI — April 2024–Present
- Designed and built an AI-driven medical simulation platform from the ground up, enabling medical students to practice clinical reasoning in realistic scenarios
- Developed a full-stack application using Flask backend, React frontend, and PostgreSQL database, deployed on AWS infrastructure
- Implemented real-time patient simulations using OpenAI's Chat APIs and the Realtime API to create dynamic, responsive virtual patients
- Architected serverless infrastructure with AWS Lambda functions for asynchronous feedback generation on clinical conversation transcripts
- Successfully deployed the platform at three prestigious medical schools (UCSF, Weill Cornell, and Yale University), serving cohorts of hundreds of medical students
- Collaborated with medical faculty to ensure simulations reflect authentic clinical challenges and assessment standards

Full Stack Engineer Intern, Hita AI — May 2024–Aug 2024
- Developed and maintained web applications using TypeScript, React, and Next.js
- Collaborated with cross-functional teams to implement new features and improve UX
- Participated in code reviews and contributed to the team's front-end development practices

Actor, Theatre — May 2016–Jul 2020

Junior Analyst, Ecosys Group — Sep 2015–Mar 2016

Research Experience

Research Assistant, Stanford University — May 2023–Jul 2024
Supervised by Emma Brunskill and Dora Demszky
- Developed a contextual bandit algorithm for automatic feedback for teachers

Multimodal AI Research Intern, Educational Testing Service AI Labs — Jun 2023–Aug 2023
Supervised by Chee Wee (Ben) Leong and Andrew Emerson
- Developed a predictive model for stress detection in a learning environment

Research Assistant, Massachusetts Institute of Technology — Mar 2022–Mar 2023
Supervised by Iddo Drori
- Worked on research using LLMs to solve undergraduate exam questions

Research Software Engineer, Cornell University — Jan 2022–May 2022
Assisted Ji Yong Cho, supervised by Rene Kizilcec
- Created an educational coaching application for online learners (iOS and Android) designed to implement strategies for reducing learner dropout rates

Skills

Python, TypeScript, React, Next.js, Node.js, Pytorch, Flask, Scikit-Learn, Git, Huggingface, Docker, AWS, SQL, SLURM, C, C++

Coursework

Reinforcement Learning, Advanced Reinforcement Learning, Natural Language Processing, Machine Learning in Feedback Systems, Deep Learning, Principles of Large-Scale Machine Learning Systems,

Advanced Artificial Intelligence, Deep Probabilistic and Generative Models, Advanced Language Technologies, Learning Analytics, Operating Systems, Software Engineering

AWARDS

Winner, CMU Gen AI Education and Future of Work Hackathon
- Won $20k as part of an LLM Hackathon hosted by Carnegie Mellon University

Fellow, Human Spirit and Beck Entrepreneurship Fellowship, Cornell University
- Awarded $6k to support full-time summer work on MedSimAI

Awardee, Ignite Innovation Acceleration Grant, Cornell University
- Awarded $50k to support the advancement and deployment of MedSimAI

TEACHING

Graduate Teaching Assistant, Cornell University — Jan 2023 – Present
- CS 4789, Introduction to Reinforcement Learning (Sp 23)
- CS 4780, Introduction to Machine Learning (Fa 23, Sp 24, Sp 25)
- CS 6784, Advanced Topics in Machine Learning (Fa 24)

ACADEMIC SERVICE

- Reviewer: AIED 2025, Neurips GAIED 2023, AAAI2024 AI for Education
- Student volunteer: Learning at Scale 2022

PUBLICATIONS

[1] Yann Hicke*, Jadon Geathers*, Sun Kongsonthana, Justin Sewell, Anyanate Gwendolyne Jack, Dennis Shung, Mackenzi Preston, Susannah Cornes, Rene F. Kizilcec, "What Medical Students Need from Simulation: Insights to Guide Scalable Learning Design", *Proceedings of the Twelfth ACM Conference on Learning@Scale*, 2025

[2] Yann Hicke*, Jadon Geathers*, Niroop Rajashekar, Colleen Chan, Anyanate Gwendolyne Jack, Justin Sewell, Mackenzi Preston, Susannah Cornes, Dennis Shung, Rene Kizilcec, "MedSimAI: Simulation and Formative Feedback Generation to Enhance Deliberate Practice in Medical Education", *arXiv*, 2025 [paper]

[3] Yann Hicke*, Jadon Geathers*, Colleen Chan, Niroop Rajashekar, Justin Sewell, Susannah Cornes, Rene Kizilcec, Dennis Shung, "Benchmarking Generative AI for Scoring Medical Student Interviews in Objective Structured Clinical Examinations (OSCEs)", *26th International Conference on Artificial Intelligence in Education (AIED)*, 2025 [paper]

[4] Yann Hicke*, Joy Yun*, M Olson, D Demszky, "Enhancing Tutoring Effectiveness Through Automated Feedback: Preliminary Findings from a Pilot Randomized Controlled Trial on SAT Tutoring" *Proceedings of the Eleventh ACM Conference on Learning@ Scale, 422-426* [paper]

[5] Jinsook Lee, Yann Hicke, Renzhe Yu, Christopher Brooks, Rene F. Kizilcec, "The life cycle of large language models in education: A framework for understanding sources of bias" *British Journal of Educational Technology 55 (5), 1982-2002* [paper]

[6] Yann Hicke*, Anmol Agarwal*, Christina Ma*, Paul Denny, "ChaTa: Towards an Intelligent Question-Answer Teaching Assistant using Open-Source LLMs", *NeurIPS'23 Workshop: Generative AI for Education (GAIED), 2023* [paper]

[7] Yann Hicke, Abhishek Masand, Wentao Guo, Tushaar Gangavarapu, "Assessing the efficacy of large language models in generating accurate teacher responses", *ACL, Innovative Use of NLP for Building Educational Applications Workshop, 2023* [paper]

[8] Yann Hicke, Tonghua Tian, Karan Jha, Frank Kim, "Automated Essay Scoring in Argumentative Writing: DeBERTeachingAssistant", *LAK'23: Workshop on Partnerships for Cocreating Educational Content, 2023* [paper]

[9] Iddo Drori, ..., Yann Hicke, ..., Madeleine Udell, "From Human Days to Machine Seconds: Automatically Answering and Generating Machine Learning Final Exams", International Conference on Knowledge Discovery and Data Mining (KDD), 2023 [paper]

[10] Iddo Drori, ..., Yann Hicke, ..., Armando Solar-Lezama, "A dataset for learning university STEM courses at scale and generating questions at a human level", Educational Advances in Artificial Intelligence (EAAI), 2023 [paper]

[11] Vitali Petsiuk, ..., Yann Hicke, ..., Iddo Drori, "Human Evaluation of Text-to-Image Models on a Multi-Task Benchmark", NeurIPS Workshop on Human Evaluation of Generative Models (HEGM). Oral, 2022 [paper]