

Zhihong (Cody) Jiang

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EDUCATION BACKGROUND

New York University, Tandon School of Engineering

Master of Science: Computer Science

Bachelor of Science: Computer Science, Applied Mathematics, Game Design

Elite Preparatory Academy

Honor Class

New York, NY

Expected May 2026

Sept 2021-May 2024

Somerset, NJ

Sept 2018-May 2020

PROFESSIONAL EXPERIENCE

Joint Embedding Predictive Architecture (JEPA) World Model Construction and Training

New York, NY

Student Researcher, Mentored by Professor Yann LeCun

Sep 2024-Present

- Developed and trained a self-supervised JEPA world model based on LeCun (2022), capable of predicting future state representations for agent trajectory prediction tasks.
- Implemented a recurrent JEPA architecture that uses image sequences and action information as inputs, enabling the model to predict future representations and learn environmental layouts and dynamics.
- Addressed representation collapse by exploring and applying regularization methods such as VicReg and BYOL, significantly improving the generalization and quality of learned representations.
- Trained and optimized the model on a dataset containing 2.5 million frames of exploration trajectories, accurately predicting agent positions in complex and dynamically changing two-room environments.
- Achieved strong performance across probing scenarios—including wall collisions and novel layouts—demonstrating robust generalization and reduced errors in long-horizon forecasting.

AI-Powered Interview Simulation Tool

New York, NY

Part-time Assistant, Mentored by Head of Data Science from Meta

Oct 2023-Present

- Led the development of an interview simulation tool using NLP and audio processing technologies; Utilized Python and libraries such as Transformers, Torchaudio, SpaCy, and PyTorch to build and optimize the tool's functionality.
- Assisted users in understanding and using the tool by developing user-friendly features and documentation.
- Integrated video performance analysis for assessing non-verbal communication as part of the scoring system; Enhanced audio analysis capabilities for evaluating structural clarity and the use of industry-specific terminology in responses.

Cancer Diagnosis Application (MIT Deep Learning Research)

Boston, MA

Student Researcher

Jun 2021-Aug 2021

- Engineered a cancer diagnosis application featuring a user-friendly interface; Integrated a Convolutional Neural Network (CNN) backend for accurate classification of cancer types; Implemented a Natural Language Processing (NLP) module to facilitate effective communication within the application.
- Developed and trained a CNN-based model, achieving a high accuracy rate of 89% in cancer diagnosis.
- Contributed to research papers in SPIE Digital Library, focusing on integrating AI for healthcare applications.
- Assisted medical professionals in using the tool by creating a user-friendly interface and providing training materials.

Anhui Yuntai Transportation Development Limited

Wuhu, China

Software Engineering Intern

Jun 2023-Aug 2023

- Developed a mobile vehicle operation application for tracking and managing large bus dispatches and car rentals.
- Created a C++ database for vehicle operations, including routes, revenue, duration, and passenger flow data, enabling detailed income analysis and strategic recommendations.
- Supported business development strategies by analyzing data and optimizing routes, improving efficiency by 15%.

Game Development Projects

New York, NY

Indie Game Personal Website: <https://cody-jiang.itch.io/>

Jan 2022-Present

- **Crazy Eight Card Games:** Developed an interactive card game, demonstrating advanced control structures, functions, and array manipulation in JavaScript within a Node.js environment; refined the user interface using HTML and CSS.
- **Interactive Pokémon-Inspired Game:** Designed and developed an engaging top-down game where players capture and battle Pokémon, enhancing the immersive experience of the game.
- **Arcade Game Remake Project:** Re-created a classic late 70s or early 80s arcade game, with behaviors and collisions handled in the Create and Step events; Developed start and end screens with restart functionality.

ADDITIONAL INFORMATION

Languages: English (Advanced Proficiency) / Chinese (Native Proficiency)

Programming: C, C++, Python, Java, SQL, Verilog, JavaScript, HTML, CSS, C#, GML

IDE: Visual Studio, VS Code, PyCharm, Sublime Text, IDLE, MongoDB, Git, Flask