Stephen Fong

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EDUCATION

Michigan State University   East Lansing, Michigan
B.S. Neuroscience GPA: 3.9 / 4.0   *Sep 2017 - April 2021*

Georgia Institute of Technology   Atlanta, Georgia
M.S. Computer Science GPA: 3.7 / 4.0   *Aug 2023 - December 2025*

PROJECTS

Machine Learning Trading Agent | *Python, Pandas*
- Built a reinforcement learning trading agent using Q-learning and Bellman updates to make buy/sell/hold decisions on historical SP 500 data.
- Implemented data preprocessing and feature engineering pipelines for training and evaluation on held-out test periods.
- Benchmarked agent performance against baseline strategies (e.g., buy-and-hold, random policy) to evaluate robustness and generalization.
- Designed training and validation workflows to analyze policy convergence and sensitivity across market conditions.

Tower of Hanoi Solver | *Python*
- Implemented an A* search–based solver for the Tower of Hanoi problem, modeling state transitions and goal conditions.
- Designed custom heuristics to reduce search space and improve solution efficiency compared to uninformed search approaches.
- Evaluated algorithm performance in terms of node expansions and solution optimality.

Raven's Matrices Solver | *Python, OpenCV, NumPy*
- Developed a computer vision pipeline to analyze Raven's Progressive Matrices problems by detecting shapes, transformations, and spatial relationships.
- Applied image preprocessing, contour detection, and feature extraction techniques to differentiate complex visual patterns.
- Improved pattern recognition accuracy over naïve pixel-based comparisons by leveraging rule-based visual reasoning.

RESEARCH

Brascamp Visual Neuroscience Lab   East Lansing, Michigan
Python, NumPy, PsychoPy   *Dec 2018 - June 2020*
- ∗ Conducted independent visual neuroscience research using PsychoPy, eye-tracking (pupil–corneal reflection), and mirror stereoscopy systems.
- ∗ Designed and executed experiments, collected and analyzed data, and maintained reproducible documentation and code.
- ∗ Recorded data and maintained source documentation following good documentation practices.
- ∗ Planned, modified and executed research techniques, procedures and tests.
- ∗ Supervised SONA experimental sessions with undergraduate participants.

TECHNICAL SKILLS

Languages: Python, Java, C, HTML, CSS
Frameworks: JUnit, Django
Developer Tools: Git, Android Studio, Maven/Gradle, SQLite
Libraries: NumPy, OpenCV, Pandas, Requests, BS4