Ketan **Agrawal**

✉ agrawalk@stanford.edu | 🏠 www.ketan.me | ⬛ ketan0 | 💼 ketan-jay-agrawal | 🐦 _ketan0

Summary

I'm a master's student in Computer Science at Stanford using artificial intelligence in human-centered applications. My outputs include published research, an impactful web application at Amazon, and a hackathon-winning smart glove. In my free time, I enjoy extending Emacs, experimenting in my digital laboratory, and playing with my cats. I am looking for machine learning engineer, research scientist, or data scientist roles.

Education

Stanford University   *Stanford, CA*

M.S. in Computer Science (AI) *GPA: 3.89/4.00*   *Jan. 2021 - Jun. 2022 (expected)*

• Relevant Coursework: Deep Generative Models, Computer Networking, Reinforcement Learning (*planned*)

Stanford University   *Stanford, CA*

B.S. in Symbolic Systems (AI) *GPA: 3.82/4.00*   *Sep. 2017 - Jun. 2021*

• Relevant Coursework: Computer Vision, Natural Language Processing, Probabilistic Programming

Research Experience

Stanford HCI Group   *Stanford, CA*

Research Assistant   *Mar. 2021 - present*

• Developing generative AI models + user interface whereby end-users can teach a model to generate high-level perceptual qualities.
• Using causal representation learning to enable the model to robustly learn from non-i.i.d. data.

Stanford Vision Lab   *Stanford, CA*

Research Assistant   *Jan. 2020 - Aug. 2021*

• Developed multimodal machine learning models combining audio, video, and text to detect depression/anxiety from patient interviews.
• Used techniques such as data augmentation, balanced sampling, and focal loss to combat small dataset size / class imbalance.

Stanford Language and Cognition Lab   *Stanford, CA*

Research Assistant   *Oct. 2018 - Jun. 2020*

• Used human face and pose estimation algorithms to examine longitudinal trends in infants' visual scenes.
• Work accepted and was presented at Conference of the Cognitive Science Society 2020.

Work Experience

Amazon Fire TV   *Gahanna, OH (virtual)*

Software Development Intern   *Jun. 2020 - Sep. 2020*

• Developed a web portal using React/Node/Typescript that now serves as a hub for onboarding partners such as Hulu and Youtube TV.
• Worked closely with engineers and manager to design intuitive, user-friendly workflows for data entry and verification.

Programming Abstractions (TA)   *Stanford, CA*

Section Leader   *Jan. 2019 - present*

• Selective TA position, taught weekly discussion section and office hours for 3+ quarters of CS 106B: Programming Abstractions.
• Worked with sectionees on whiteboard and computers to create elegant, efficient solutions to data structures and recursion problems.

Projects

Interactive Timbre Exploration   *link →*

• Using variational autoencoders (VAEs) to interactively vary the musical timbre (tone) of an note, e.g. from a piano to a cello.
• Neural network written and trained in PyTorch on a GPU-enabled machine. Website built using Typescript / Next.js.

Smart Glove   *link →*

• Raspberry Pi-powered smart glove to control IoT devices. Won hardware prize in Interhackt hackathon.
• Makes use of Spotify, FB Messenger, Philips Hue APIs in Python, soldering / GPIO pins to assemble glove.

Skills

Expert: Python, PyTorch, *Proficient:* TypeScript, React.js, Node.js, C/C++, *Some experience:* Neo4j, WebPPL, Lisp, Bash, Java