Joel Ye

joelye9@gmail.com ✉
joel99.github.io ➤

Research Interests

NeuroAI, Embodied AI, Brain-Computer Interfaces, Machine Perception

Education

Georgia Institute Of Technology
B.S. Computer Science | Minor in Mathematics | *GPA: 4.0 / 4.0*   May 2020
M.S. Computer Science | Machine Learning Specialization | *GPA: 4.0 / 4.0*   May 2021
· Coursework: Comp. Neuroscience, Network Science, Info Theory, Computer Vision, Deep Learning for Text
· In progress: Computation and the Brain, Robot Learning from Demonstrations

Stuyvesant High School
Advanced NYS Regents Diploma | GPA: 4.0 / 4.0   Jun 2017

Publications and Presentations

J. Ye, D. Batra, E. Wijmans, and A. Das. Auxiliary Tasks Speed Up Learning PointGoal Navigation.
In *Conference on Robot Learning (CoRL)*, 2020.
J. Ye, C. Pandarinath. Representation learning for neural population activity with Neural Data Transformers.
In submission. Poster presentation at Neuromatch 3.0, 2020.

Projects

Perturbome of Graphs of RNNs | Report: github.com/joel99/noised-rnn-networks   Fall 2020
   · How do deep neural networks compute in the presence of internal noise, or targeted perturbation?
   · Evaluated this dynamical robustness by noising recurrent networks built with pytorch-geometric
BERT Representations During Fine-Tuning | Report: github.com/joel99/bert-representations   Fall 2020
   · Studied how transformers change during fine-tuning and forgetting using representational analysis
Automatically Defined Functions   Fall 2019
   · Designed and built system to detect and extract useful functions in evolved computation trees
Photobooth | github.com/HackGT/photo-style   Fall 2018
   · Interfaced with style-transfer server to collect styled photos, built masking app with HTML canvas
   · Set up server polling endpoint to interface with DSLR camera trigger, provide fallback laptop camera

Experience

Microsoft, *Visual Document Intelligence, Software Engineering Intern - Remote*   Summer 2020
   · Prototyped empty region annotation and data augmentation for document recognition frontend
   · Integrated, benchmarked and analyzed data augmentation performance in C# backend
Ubiquity6, *Software Engineering Intern - San Francisco, CA*   Summer 2019
   · Prototyped wayfinding experience for navigating AR scenes, using a custom navigation mesh
   · Wrote React Native UI for collecting user feedback, improving components for draggable content
   · Wrote SfM post-processing to prototype feature extraction training pipeline
   · Analyzed ARKit (Obj-C) and ARCore (Java) anchor drift, assessing viability for better pose priors
   · Extended render engine testing suite through Puppeteer, wrapping Three.JS API
HackGT, *Director of Technology - Atlanta, GA*   2019
   · Led 10+ students to make hackathon tech. Worked on executive board to plan hackathon events
   · Led curriculum committee to collaborate with campus CS organizations on workshops