Andrew Szot

www.andrewszot.com

Email: me@andrewszot.com

EDUCATION

Georgia Institute of Technology   *Aug 2020 - Present*
Ph.D. in Machine Learning
Advised by Dhruv Batra and Zsolt Kira

University of Southern California   *Aug 2016 - May 2020*
B.S. in Computer Science, Minor in Mathematics
Trustee Full Tuition Scholarship, GPA: 3.71 / 4.0

PUBLICATIONS

[5] "Housekeep: Tidying Virtual Households using Commonsense Reasoning"
Y. Kant, A. Ramachandran, Sriram Yenamandra, I. Gilitschenski, D. Batra, **A. Szot***, H. Agrawal*
European Conference on Computer Vision, 2022 [pdf]

[4] "Habitat 2.0: Training Home Assistants to Rearrange their Habitat"
A. Szot, A. Clegg, E. Undersander, E. Wijmans, Y. Zhao, J. Turner, N. Maestre, M. Mukadam, D. Chaplot, O. Maksymets, A. Gokaslan, V. Vondrus, S. Dharur, F. Meier, W. Galuba, A. Chang, Z. Kira, V. Koltun, J. Malik, M. Savva, D. Batra
Neural Information Processing Systems (**Spotlight, top 3% of 9122 submissions**), 2021 [pdf]

[3] "Generalizable Imitation Learning from Observation via Inferring Goal Proximity"
Y. Lee*, **A. Szot***, , S. Sun and J. J. Lim (* indicates equal contribution)
Neural Information Processing Systems, 2021 [pdf]

[2] "Generalization to New Actions in Reinforcement Learning"
A. Jain*, **A. Szot*** and J. J. Lim (* indicates equal contribution)
International Conference on Machine Learning, 2020 [pdf]

WORKSHOP PUBLICATIONS AND PREPRINTS

[1] "Meta-IRL: Learning Generalizable Reward Functions from Demonstrations"
A. Szot, A. Zhang, D. Batra, Z. Kira, F. Meier
Preprint, 2022

EXPERIENCE

Facebook AI Research *Research Intern*   *May 2022 - Present*
Advisor: Dr. Akshara Rai and Dr. Ruta Desai

Facebook AI Research *Research Intern*   *May 2021 - December 2021*
Advisor: Dr. Franziska Meier

- Research on inverse reinforcement learning.

CLVR Lab, University of Southern California   *August 2018 – June 2020*
Advisor: Prof. Joseph J. Lim

- Developed a state of the art imitation from observation method.
- Built reinforcement learning agents that can generalize to new actions.
- Created novel benchmarks investigating tool usage and physical reasoning in RL. [web]

Airbnb *Software Engineering Intern*   *May 2018 – August 2018*

- Deployed a model to production that predicted and took automated action against account takeover fraud using Scikit-learn, XGBoost, Hive and Presto.
- Resulted in 50% reduction in account takeover fraud with minimal false positives.

Media Communications Lab, University of Southern California   *October 2016 – December 2017*
Advisor: Prof. C.C. Jay Kuo

- Researched weakly supervised CNNs using clustering approaches to pre-train.

- Ran experiments with TensorFlow, Cython and NumPy then presented results in research discussions.

eBay *Software Engineering Intern* *May 2017 – August 2017*

- Delivered a data analytics platform using Scala, Spark, Hadoop and Druid to process petabytes of eBay metrics.
- Employed Spark MLlib unsupervised machine learning algorithms for customer group segmentation.

AWARDS

- **GT Outstanding Online Teaching Assistant**: One of top 2 online TAs in department. *Fall 2021*
- **NSF GRFP Honorable Mention** *2021*
- **USC Viterbi Fellowship**: Research funding given to the top 20 engineering students per class. *2016-2020*
- **USC Trustee Scholarship**: Full tuition scholarship. *2016-2020*
- **USC Provost Fellowship**: Merit based fellowship for summer research funding. *2019*

SERVICE AND TEACHING

Workshop / Challenge Organization

- Lead organizer of NeurIPS 2022 "Habitat Rearrangement Challenge" *2022*
- Organizer at Embodied AI Workshop at CVPR 2022 *2022*

Teaching

- Graduate Deep Learning Class Teaching Assistant (CS 7643, won outstanding TA award) *Fall 2021*

Reviewing

- ICCV 2021, IROS 2021, ICLR 2022, CVPR 2022

Mentoring

- Haytham Huang (GT Undergraduate) *Spring 2022-Present*
- Abhinav Harish (GT Masters) *Spring 2022-Present*
- Sriram Yenamandra (GT Masters) *Fall 2021-Present*
- Arun Ramachandran (GT Masters) *Fall 2021-Present*

SELECTED PRESS COVERAGE

- "How Facebook's AI is training home robots to tackle the chores you hate", by Katie Collins, *CNET*, June 30, 2021 [link]
- "Facebook and Matterport collaborate on realistic virtual training environments for AI", by Devin Coldewey, *Tech Crunch*, June 30, 2021 [link]
- "Facebook updates Habitat environment to train 'embodied AI'", by Kyle Wiggers, *VentureBeat*, June 30, 2021 [link]

PROJECTS

- **CAIS++**: Co-founded a club, leading social impact AI projects. Received 200 applications per semester. Created teaching curriculum covering a semester of deep learning content. [web]
- **Voice Conversion**: Unsupervised voice translation between speakers. Received best project award out of 250 graduate students. Implemented CycleGAN and VQ-VAE for audio. [code] [write-up]
- **RL Algorithms**: Implemented and open sourced reinforcement and imitation learning methods. [code]