

SAVYA KHOSLA

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EDUCATION

University of Illinois Urbana-Champaign

MS in Computer Science (CGPA: 4.0 / 4.0)

Urbana, IL

Aug 2022 - May 2024

- Graduate Teaching Assistant for CS 225: Data Structures and CS 445: Computational Photography

Delhi Technological University

B.Tech. in Computer Engineering (CGPA: 9.40 / 10.0)

New Delhi, DL

Aug 2017 - July 2021

- Received Research Excellence Award and INR 50,000 for noteworthy contributions to machine learning research

RESEARCH EXPERIENCE

Allen Institute for AI

Research Intern

Seattle, WA

Oct 2022 - Present

- Working towards improving multimodal video representation learning by efficiently handling videos of up to 10 minutes
- Contributed to a unified model for handling images, text, audio, videos, thereby performing 50+ tasks spanning across CV, NLP, GenAI

National University of Singapore

Research Assistant (Guide: Prof. Kenji Kawaguchi)

Remote

Apr 2022 - Aug 2022

- Developed robust active learning algorithm for handling heteroskedastic noise, resulting in 10% accuracy improvement over baselines
- Demonstrated 15% accuracy improvement in other state-of-the-art algorithms by incorporating a simple self-supervised approach

Mila - Quebec AI Institute

Research Intern (Guide: Prof. Yoshua Bengio)

Montreal, QC

Apr 2021 - Nov 2021

- Demonstrated catastrophic failure of uncertainty-based active learning algorithms by proposing 3 heteroskedastic data distributions
- Proposed adversarial training technique that achieves 48% reduction in error rate on clean data while preserving adversarial robustness

INDUSTRY EXPERIENCE

Google

Software Engineer

Bangalore, KA

Aug 2021 - Mar 2022

- Improved Google Search's web ranking infrastructure using deep learning for better multimodal document understanding
- Enhanced precision and recall in salient entity extraction from webpages by transitioning from traditional ML methods to LLMs

Software Engineering Intern

May 2020 - Jul 2020

- Initiated the development of MuRIL, a BERT-based multilingual language model for 17 Indian dialects
- Achieved 10.42% F1 improvement in sentiment analysis and 9.87% in named entity recognition for Indian languages

Cadence Design Systems

Python Developer Intern

Noida, UP

Dec 2018 - Jan 2019

- Streamlined complex multi-step process of fetching file revisions from 2 version control systems to a single bash command

SELECTED PUBLICATIONS

1. [Savya Khosla](#), Chew Kin Whye, Jordan T. Ash, Cyril Zhang, Kenji Kawaguchi, and Alex Lamb. **Neural Active Learning on Heteroskedastic Distributions**. 26th European Conference on Artificial Intelligence (ECAI), 2023.
2. Alex Lamb, Vikas Verma, Kenji Kawaguchi, Alexander Matyasko, [Savya Khosla](#), Juho Kannala, and Yoshua Bengio. **Interpolated Adversarial Training: Achieving Robust Neural Networks Without Sacrificing Too Much Accuracy**. Neural Networks, 2022.
3. Anil Singh Parihar, Shashank Kumar, and [Savya Khosla](#). **S-DCNN: Stacked Deep Convolutional Neural Networks for Malware Classification**. Multimedia Tools and Applications, 2022.
4. Savya Khosla, Alex Lamb, Jordan Ash, Cyril Zhang, and Kenji Kawaguchi. **Catastrophic Failures of Neural Active Learning on Heteroskedastic Distributions**. In NeurIPS 2021 Workshop on Distribution Shifts: Connecting Methods and Applications, 2021.
5. Simran Khanuja, Diksha Bansal, Sarvesh Mehtani, Savya Khosla, Atreyee Dey, Balaji Gopalan, Dilip Kumar Margam, Pooja Aggarwal, Rajiv Teja Nagipogu, Shachi Dave, Shruti Gupta, Subhash Chandra Bose Gali, Vish Subramanian, and Partha Talukdar. **MuRIL: Multilingual Representations for Indian Languages**. Media: [Economic Times](#), [Indian Express](#), [Google AI Blog](#)

PROJECTS & SKILLS

Selected projects: [Occluded Facial Expression Recognition](#), [Image Captioning](#), [Text-to-Image](#), [Machine Learning Algorithms](#), [AgroAI](#)

Programming languages/frameworks: Python, C++, TensorFlow, Keras, PyTorch, JAX, Flax, Git, Bash Scripting, Javascript, OpenCV

Technical skills: Data Structures, Algorithms, Machine Learning, Computer Vision, NLP, Multimodal Learning, Data Handling, GCP