

# Soroush Abbasi Koohpayegani

---

## Contact Information

[soroush@ucdavis.edu](mailto:soroush@ucdavis.edu)   [Webpage](#)   [Google Scholar](#)   (+1) 240-840-6824

---

## Education

**BSc. • Computer Science** Iran • Sharif University of Technology (2013 Sep - 2018 Feb)

Advisor: Dr. Mostafa Kamali Tabrizi

Project: Virtual Advertisement for Live Sports Broadcast

**MSc. • Computer Science** USA • University of Maryland, Baltimore County (2019 Aug - 2022 Aug)

Advisor: Prof. Hamed Pirsiavash

Thesis: Self-supervised Learning By Compressing Representations For Lightweight Models

**Ph.D • Computer Science** USA • University of California, Davis (2022 Sep - Present)

Expected Graduation: Summer 2024

Advisor: Prof. Hamed Pirsiavash

Thesis: Efficiency in Deep Learning

---

## Research Interest

Computer Vision • Machine Learning • Efficient Deep Learning • Multimodal – Computer Vision

---

## Experiences

**University of California, Davis** • Research Assistant (2022 Sep - Present)

- Efficient Deep Learning

**Apple** • Computer Vision Research Internship (Summer 2022)

- Open Vocabulary Object Detection

**University of Maryland, Baltimore County** • Research Assistant (2019 Aug - 2022 May)

- Self-Supervised Learning

**Microsoft** • Computer Vision Research Internship (Summer 2021)

- Efficient Transformers
-

## Publications

### **SlowFormer: Adversarial Attack on Compute and Energy Consumption of Efficient Vision Transformers**

KL Navaneet\*, Soroush Abbasi Koohpayegani\*, Essam Sleiman\*, Hamed Pirsiavash \*equal contribution [CVPR 2024]

### **NOLA: Compressing LoRA using Linear Combination of Random Basis**

Soroush Abbasi Koohpayegani\*, KL Navaneet\*, Parsa Nooralinejad, Soheil Kolouri, Hamed Pirsiavash \*equal contribution [ICLR 2024]

### **PRANC: Pseudo Random Networks for Compacting deep models**

Parsa Nooralinejad, Ali Abbasi, Soroush Abbasi Koohpayegani\*, Kossar Pourahmadi\*, Rana Muhammad Shahroz Khan\*, Soheil Kolouri, Hamed Pirsiavash \*equal contribution [ICCV 2023]

### **ATS: Adaptive Token Sampling for Efficient Vision Transformers**

Mohsen Fayyaz\*, Soroush Abbasi Koohpayegani\*, Farnoush Rezaei Jafari\*, Sunando Sengupta, Hamid Reza Vaezi Joze, Eric Sommerlade, Hamed Pirsiavash, Juergen Gall \*equal contribution [ECCV 2022] Oral presentation

### **Constrained Mean Shift Using Distant Yet Related Neighbors for Representation Learning**

KL Navaneet\*, Soroush Abbasi Koohpayegani\*, Ajinkya Tejankar\*, Kossar Pourahmadi, Akshayvarun Subramanya, Hamed Pirsiavash \*equal contribution [ECCV 2022]

### **Consistent Explanations by Contrastive Learning**

Vipin Pillai, Soroush Abbasi Koohpayegani, Ashley Ouligian, Dennis Fong, Hamed Pirsiavash [CVPR 2022]

### **Backdoor Attacks on Self-Supervised Learning**

Aniruddha Saha, Ajinkya Tejankar, Soroush Abbasi Koohpayegani, Hamed Pirsiavash [CVPR 2022] Oral presentation

### **ISD: Self-Supervised Learning by Iterative Similarity Distillation**

Ajinkya Tejankar\*, Soroush Abbasi Koohpayegani\*, Vipin Pillai, Paolo Favaro, Hamed Pirsiavash \*equal contribution [ICCV 2021]

### **Mean Shift for Self-Supervised Learning**

Soroush Abbasi Koohpayegani\*, Ajinkya Tejankar\*, Hamed Pirsiavash \*equal contribution [ICCV 2021] Oral presentation

### **CompPress: Self-Supervised Learning by Compressing Representations**

Soroush Abbasi Koohpayegani\*, Ajinkya Tejankar\*, Hamed Pirsiavash \*equal contribution [NeurIPS 2020]

---

## Publications

### **SimReg: Regression as a Simple Yet Effective Tool for Self-supervised Knowledge Distillation**

KL Navaneet, Soroush Abbasi Koohpayegani, Ajinkya Tejankar,  
Hamed Pirsiavash [**BMVC 2021**]

### **GeNIe: Generative Hard Negative Images Through Diffusion**

Soroush Abbasi Koohpayegani\*, Anuj Singh\*, K L Navaneet,  
Hadi Jamali-Rad, Hamed Pirsiavash \*equal contribution [**arXiv 2023**]

### **Compact3D: Smaller and Faster Gaussian Splatting with Vector Quantization**

KL Navaneet\*, Kossar Pourahmadi Meibodi\*,  
Soroush Abbasi Koohpayegani, Hamed Pirsiavash \*equal contribution [**arXiv 2023**]

### **SimA: Simple Softmax-free Attention for Vision Transformers**

Soroush Abbasi Koohpayegani, Hamed Pirsiavash [**WACV 2024**]

### **A Closer Look at Robustness of Vision Transformers to Backdoor Attacks**

Akshayvarun Subramanya, Soroush Abbasi Koohpayegani\*, Aniruddha Saha\*,  
Ajinkya Tejankar, Hamed Pirsiavash \*equal contribution [**WACV 2024**]

### **Multi-Agent Lifelong Implicit Neural Learning**

Soheil Kolouri, Ali Abbasi, Soroush Abbasi Koohpayegani,  
Parsa Nooralinejad, Hamed Pirsiavash [**IEEE Signal Processing Letters**]

---