AJINKYA TEJANKAR

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EDUCATION

University of California, Davis (UC Davis) — Davis, CA
PhD in Computer Science — January 2022 – June 2024
Advisor: Dr. Hamed Pirsiavash

University of Maryland, Baltimore County (UMBC) — Baltimore, MD
MS in Computer Science — August 2017 – July 2020
PhD in Computer Science — August 2020 – December 2021
Advisor: Dr. Hamed Pirsiavash

Maharashtra Institute of Technology (University of Pune) — Pune, India
BE in Computer Engineering — July 2010 – July 2014

PROFESSIONAL EXPERIENCE

Meta AI — Menlo Park, CA
Research Intern — June 2022 – September 2022

- *Project: Investigate techniques for defending self-supervised models from backdoor attacks.*
- Proposed a simple method to find backdoored samples by simulating a backdoor attack.
- The results show that the method can significantly reduce the effectiveness of the attack.
- Mentors: Liang Tan (manager), Hamed Firooz, Maziar Sanjabi, Qifan Wang, and Sinong Wang.

Meta AI — Menlo Park, CA
Research Intern — June 2021 – September 2021

- *Project: Improve cross-modal, vision and language, representation learning.*
- Showed that natural language captions are not needed, and BoWs is sufficient for zero-shot models.
- Showed that it is possible to improve zero-shot accuracy by only keeping a few most informative words.
- Mentors: Hamed Firooz (manager), Maziar Sanjabi, Bichen Wu, and Saining Xie.

Matroid Inc. — Palo Alto, CA
Research Intern — June 2020 – August 2020

- *Project: Improve pre- and post- processing steps in object detection pipelines for handling high resolution images.*
- Designed a simple pre-processing method to reduce the number of splits processed for each image.
- Designed a simple post-processing method to improve the mAP metric from 62 to 72.
- Mentor: Reza Zadeh.

Tavisca Solutions Pvt. Ltd. — Pune, India
Software Developer — August 2014 – May 2017

- Helped maintain the flagship product of the company, a travel ticket booking platform.
- Implemented an in-house developer tool to help manage hundreds of JavaScript components across teams.
- Designed the tech-stack and the key aspects of user interaction of the alpha version of a product.
- Implemented Functional Reactive Paradigm using TypeScript, RxJS and AngularJS.
- Mentors: Rahul Pilkhwal and Nikhil Prasad.

Calsoft Inc. — Pune, India
Project Intern — May 2013 – May 2014

- As part of a team, designed and developed a Virtual Machine management web application.
- Designed and implemented the user interface in JavaScript, HMTL and CSS.

PUBLICATIONS

- Soroush Abbasi Koohpayegani*, **Ajinkya Tejankar***, Hamed Pirsiavash. *CompRess: Self-Supervised Learning by Compressing Representations. NeurIPS, 2020 (Poster). * equal contribution*
- **Ajinkya Tejankar***, Soroush Abbasi Koohpayegani*, Vipin Pillai, Paolo Favaro, Hamed Pirsiavash. *ISD: Self-Supervised Learning by Iterative Similarity Distillation. ICCV, 2021 (Poster). * equal contribution*
- Soroush Abbasi Koohpayegani*, **Ajinkya Tejankar***, Hamed Pirsiavash. *Mean Shift for Self-Supervised Learning. **ICCV, 2021 (Oral)**. * equal contribution*
- KL Navaneet, Soroush Abbasi Koohpayegani, **Ajinkya Tejankar**, Hamed Pirsiavash**.** *SimReg: Regression as a Simple Yet Effective Tool for Self-supervised Knowledge Distillation. BMVC, 2021 (Poster).*
- Aniruddha Saha, **Ajinkya Tejankar**, Soroush Abbasi Koohpayegani, Hamed Pirsiavash. *Backdoor Attacks on Self-Supervised Learning**. CVPR, 2022 (Oral)**.*
- KL Navaneet*, Soroush Abbasi Koohpayegani*, **Ajinkya Tejankar***, Kossar Pourahmadi, Akshayvarun Subramanya, Hamed Pirsiavash. *Constrained Mean Shift Using Distant Yet Related Neighbors. ECCV, 2022 (Poster). * equal contribution*
- **Ajinkya Tejankar**, Maziar Sanjabi, Bichen Wu, Saining Xie, Madian Khabsa, Hamed Pirsiavash, Hamed Firooz. *Can We Train Vision and Language Zero-Shot Classification Models Without Syntax?. NeurIPS, 2022 (Workshop).*
- **Ajinkya Tejankar**, Maziar Sanjabi, Qifan Wang, Sinong Wang, Hamed Firooz, Hamed Pirsiavash, Liang Tan. *Defending Against Patch-Based Backdoor Attacks on Self-Supervised Learning. CVPR, 2023 (Poster).*

COMMUNITY SERVICE

Reviewer for: ICCV 2021 (Outstanding reviewer), ECCV 2022, CVPR 2023, TPAMI 2023, ICCV 2023, NeurIPS 2023

TEACHING EXPERIENCE

University of California, Davis (UC Davis) — Davis, CA
Teaching Assistant – Introduction to Computer Vision — March 2022 – June 2022

University of Maryland Baltimore County (UMBC) — Baltimore, MD
Teaching Assistant – Computer Organization and Assembly Language. — August 2017 – May 2018

SKILLS

Languages & Frameworks: Python, PyTorch, NumPy, Bash, JavaScript, scikit-lean, TypeScript, HTML, CSS, RxJS, AngularJS
Tools: Git, Vim, Sed, Awk, and Linux command line

PERSONAL PROJECTS

- Web application to visualize topic-wise specialization of experts in the Mixtral 8x7B model. This went to the front page of Hacker News (highest rank 18th). https://mixtral-moe-vis-d726c4a10ef5.herokuapp.com
- Speech to Gesture Dynamics. The goal was to predict the gestures from speech and vice versa. This was an extremely fun and rewarding project. It inspired me to pursue Computer Vision research. A very similar paper was published in CVPR 2019. I implemented the pre-processing pipeline in Python, dlib, scikit-learn and Bash to handle tasks like speaker detection, pose estimation, etc.
- Mobile application for style transfer based on a doodle provided by the user.
- Regular expression matching engine based on NFA algorithm by Ken Thompson.
- AWK inspired command line tool to process JSON.

ACTIVITIES

Linux Users Group — May 2012 – May 2014

- As a member of the college Linux Users Group, organized talks and seminars on programming.
- Conducted workshops to help students navigate the Linux programming environment.

Robotics Workshops — May 2011 – May 2013

- Conducted fun robotics and programming workshops for kids using the Lego Mindstorm kits.