sachin.chhabra@asu.edu
Santa Clara, CA

Sachin Chhabra

LinkedIn.com/in/s-chh
GitHub.com/s-chh
schh.xyz

Summary

Ph.D. in Computer Science (Arizona State University), specializing in computer vision and label-efficient training of neural networks, with multiple first-author publications and patents. Machine Learning Scientist at Wayfair, designing and deploying large-scale recommendation and forecasting systems.

Education

Doctor of Philosophy (Ph.D.) in Computer Science, Arizona State University, GPA: 4.0/4.0 [ ] **Aug 2019 — May 2024**
Master of Science in Computer Science, Arizona State University, GPA: 3.9/4.0 **Aug 2017 — May 2019**
Bachelor of Technology in Computer Science, Vellore Institute of Technology, India **Aug 2009 — Aug 2013**

Work Experience

- **Machine Learning Scientist** **July 2024 — Present**
  WayFair Mountain View, California
  – Developed a recommendation engine for images for improving user product discovery.
  – Designed a multi-task neural network for sales forecasting across multiple markets and stages of B2B customers.
- **Machine Learning Intern** [ ] **Summer 2022 & Summer 2023**
  WayFair Boston, Massachusetts
  – Automated product color extraction from images using object detection and segmentation based on input query text.
  – Designed and implemented a Graph Neural Network (GNN) to build an item-to-item-based recommendation system.
- **Machine Learning Intern** **May 2020 — Aug 2020**
  Systems Imagination Tempe, Arizona (Remote)
  – Processed time series and tabular data using a hybrid neural network to predict covid case counts and risk for the US counties.
- **Senior Software Engineer** **Dec 2013 — Jun 2017**
  Accenture Bangalore, India
  – Worked on migration scripts, stored procedures for databases, and wrote SQL queries for ETL transformation logic.

Publications & Patents

Full List at Google Scholar

- **Chhabra,S.** *et al.* Label Smoothing++: Enhanced Label Regularization for Training Neural Networks. *BMVC* (2024). [ ]
- **Chhabra,S.** *et al.* PatchRot: Self-Supervised Training of Vision Transformers by Rotation Prediction. *BMVC* (2024). [ ]
- **Chhabra,S.** *et al.* Translation of Partially Paired Images with Generative Adversarial Networks. *IEEE EMBS BHI* (2024). [ ]
- **Chhabra,S.** *et al.* Generative Alignment of Posterior Probabilities for Source-free Domain Adaptation. *WACV* (2023). [ ]

Projects & Professional Services

- **Large Language Model (LLM) from Scratch in PyTorch** [ ]
  – Implemented GPT3 and LLaMA-2 based Large Language Models (LLM) from scratch in PyTorch with functionalities like Byte-Pair tokenizer, Rotational Positional Embedding (RoPe), SwishGLU, RMSNorm, and Mixture of Experts (MOE).
- **Vision Transformer from Scratch in PyTorch** [100+ ★] [ ]
  – Implemented Vision Transformer (ViT) from scratch in PyTorch, including operations like self-attention.
- **Various Generative Adversarial Networks (GAN)** [ ]
  – Implemented Vanilla-GAN, DCGAN, LSGAN, cGAN, CycleGAN, WGAN, WGAN-GP, and StarGAN for generating/translating images.
- **Research Paper Reviewer** **2021 — Present**
  – Regularly reviewed research papers for CVPR, ICLR, NeurIPS, ICCV, ECCV, AAAI, ICML, BMVC, WACV, and ACM TIST.

Technical Skills

Programming	Python, SQL
ML Frameworks	PyTorch, Keras, Scikit-learn, OpenCV
Specialties	Deep Learning, Transformers, GANs, GNNs, Computer Vision
Cloud	Google Cloud Platform (BigQuery, AI Platform, Dataflow, Composer Airflow)