

✉ sachin.chhabra@asu.edu
📍 Santa Clara, CA

Sachin Chhabra

[in LinkedIn.com/in/s-chh](https://www.linkedin.com/in/s-chh)
[GitHub.com/s-chh](https://github.com/s-chh)
🌐 schh.xyz

SUMMARY

Machine Learning Scientist at Wayfair, designing and building production-scale recommendation engines to enhance product discovery. Holds a Ph.D. in Computer Science, specializing in computer vision and label-efficient training of neural networks, with multiple first-author publications and patents.

WORK EXPERIENCE

- Machine Learning Scientist** July 2024 — Present
WayFair Mountain View, California
 - Designed and developed a recommendation model for shoppable inspirational images to improve 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.

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

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** [150+ ★] [🔗]
 - 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, Vertex Pipelines)