

Sunny Sanyal

🏠 [Website](#) 📄 [Google Scholar](#) 🔗 [LinkedIn](#)
✉️ sanyal.sunny@utexas.edu 📞 (+1)5128885211

Education

- 🎓 **PhD in Electrical and Computer Engineering** 2020–Present
The University of Texas at Austin Austin, TX
GPA: 3.81/4
Supervisor: Prof. Sujay Sanghavi
- 🎓 **M.Eng. by research in Communication and Information Systems** 2016–2019
Chongqing University of Posts and Telecom Chongqing, China
GPA: 92.22/100 (**Excellent Thesis Award**)
Supervisor: Prof. Dapeng Wu
- 🎓 **B.Tech. in Electronics and Communication Engineering** 2011–2015
Maulana Abul Kalam Azad University of Technology, India Kolkata, India
(Formerly known as West Bengal University of Technology)
GPA: 8.23/10 (**Top 10% in class**)

Research Interests

Large Language Models, Efficient Training, Efficient Inference, and Knowledge Distillation

Work Experience

1. **Lightning AI** Summer, 2024
Research Intern Newyork city, NY
– Pre-training small language models.
2. **Amazon Science (Alexa AI)** Summer, 2022
Applied Scientist Intern Sunnyvale, CA
– Worked on vision language pretraining using knowledge distillation for transformers.

Selected Publications

1. **Inheritune: A Training Recipe for Small Base LMs.** Under submission, 2024
Sunny Sanyal, Ravid Shwartz, Alex Dimakis and Sujay Sanghavi.
2. **DataComp-LM: In search of the next generation of language model training sets.** Preprint, 2024
Jeffery Li, Alex Fang, ... **Sunny Sanyal** et al.
3. **Early Weight Averaging Meets High Learning Rates for LLM Pre-training.** COLM, 2024
Sunny Sanyal, Atula Tejaswi, Jean Kaddour, Abhishek Kumar, and Sujay Sanghavi.
Presented at NeurIPS 2023 WANT Workshop.
4. **DeepMines: A fog enabled prediction platform for underground coal mines.** IEEE COMSNETS Workshop, 2020
Sunny Sanyal, Animesh Chattopadhyay. (**IEEE ComSoc Honorary Mention Award**)
5. **Data Aggregation Techniques for Internet of Things.** Master's thesis, 2019
Sunny Sanyal. (**Excellent Master's Thesis Award**)
6. **A Federated Filtering Framework for Internet of Medical Things.** IEEE ICC, 2019
Sunny Sanyal, Dapeng Wu, and Boubakr Nour. (**Oral**)
7. **Improving Quality of Data: IoT data aggregation using device to device communications.** IEEE Access, 2018
Sunny Sanyal, and Punning Zhang.
8. **Co-relative mobility based IoT data uploading using D2D communication.** ACM/EAI Mobimedia, 2017
Sunny Sanyal, Wu Dapeng, Junjie Yan, and Xing Li.
9. **Trust oriented partner selection in D2D cooperative communications.** IEEE Access, 2017
Dapeng Wu, Junjie Yan, **Sunny Sanyal**, Ruyan Wang.

Selected Honors and Awards

🏆 Selected for Google CSRMP 2023 program.	2023
🏆 Travel Grant for NeurIPs conference for two consecutive years.	2022, 2023
🏆 Ram's Horn Best Project Award in EE381K Digital Video Class, UT Austin.	2021
🏆 Excellent Master's Thesis Award.	2019
🏆 Outstanding International Student Award, International College of CQUP, China.	2019
🏆 Technology Innovation Award, International College of CQUP, China.	2019
🏆 Honorary Mention Award in IEEE ComSoc Student's Competition.	2018
🏆 Chinese Government Scholarship.	2016–2019
🏆 Newspaper coverage for project– communication system for mute people.	2014
🏆 Secured 2 nd position in national embedded systems design competition at 'KSHITIJ-2013', IIT, KGP.	2013

Demos, Posters and Talks

📖 Training Smaller and Efficient Language Models. (Talk)	Lightning AI, 2024
📖 Pre-training with Lesser Data and Compute.(Talk)	ML collective, 2024
📖 Early Weight Averaging Meets High Learning Rates for LLM Pre-training. (Poster)	Amazon symposium, 2023
📖 Generative Masking and In-painting for Videos. (Demo)	CVPR Demos, 2023
📖 Understanding the Effectiveness of Early Weight Averaging for Training LLMs. (Poster)	6G@UT, 2023
📖 Object masking and inpainting a.k.a Harry Potter's spell. (Talk)	MLL Symposium, 2022
📖 Do Neural Networks Overthink? (Talk)	Austin DL, 2021

Selected Professional Services

📖 Organized Broadening Research Collaborations in ML (BRCML), workshop at NeurIPs.	New Orleans, 2022
📖 Volunteered for the LevelUp org to help students for grad school applications.	Virtual, 2022
📖 Leader of the DEI Student Committee at Cockrell School of Engineering, UT Austin..	Austin, 2023
📖 Reviewer for NeurIPs 2022/23 workshops, IEEE Access, IEEE VTC 2019 Fall, IEEE ICC 2019, and IEEE ICC 2019.	Virtual, 2019–2022
📖 Member of the program committee for NeurIPs 2022 BRCML workshop, ACM/SIGAPP SAC 2019.	Virtual, 2019–2022

Teaching

📖 TA for EE 460J Data Science Lab taught by Prof. Constantine Caramanis at UT Austin.	Spring, 2021
---	--------------

Technical Skills

- 📖 **Programming Languages:** Python, Pytorch, Numpy, Pandas, Scikit learn, Deepspeed, Huggingface, SQL, and Matlab.
- 📖 **Systems:** Linux, AWS EC2, Cudatoolkit, Arduino, and Raspberry Pi.
- 📖 **Writing:** Latex, Gephi and various visualization tools.

Relevant Courses

- 📖 **Graduate:** • Probability and stochastic processes • Convex optimization • Advanced topics in computer vision
• Data mining • Topics in NLP • Grounded NLP • Digital video • Complex networks in real world