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Aayush Mishra

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`Towards efficient and reliable adaptation in AI models.`

Education

Johns Hopkins University — `Jan 2022 - ongoing`
Ph.D. in Computer Science
M.S.E. in Computer Science – GPA: 4.0/4.0 (transcript) — `Dec 2023`

Indian Institute of Technology Mandi — `Aug 2015 - Jun 2019`
B.Tech. in Computer Science and Engineering – GPA: 8.88/10.0 (transcript)
with Minor in Management

Selected Publications

- *IA2: Alignment with ICL Activations Improves Supervised Fine-Tuning* — 2025
  Aayush Mishra, Daniel Khashabi, Anqi Liu [pre-print]
- *ICL CIPHERS: Quantifying "Learning" in In-Context Learning via Substitution Ciphers* — 2025
  Zhouxiang Fang, **Aayush Mishra**, et al. [EMNLP (Main) paper]
- *ODD: Overlap-aware Estimation of Model Performance under Distribution Shift* — 2025
  Aayush Mishra, Anqi Liu [UAI paper]
- *EigenLoRA: Recycle trained Adapters for Resource Efficient Adaptation and Inference* — 2024
  Aayush Mishra*, Prakhar Kaushik*, et al. [pre-print]
- *Do pretrained Transformers Learn In-Context by Gradient Descent?* — 2024
  Aayush Mishra*, Lingfeng Shen*, Daniel Khashabi [ICML (Oral) paper]
- *Source-Free and Image-Only Unsupervised Domain Adaptation for Category Level Object Pose Estimation* — 2024
  Prakhar Kaushik, **Aayush Mishra**, et al. [ICLR paper]

Experience

Adobe — `May 2024 - Aug 2024`
Research Intern [Document Intelligence Lab]
- Developed EigenLoRA, to recycle pre-trained LoRAs for efficient training and inference of new LoRAs.

Microsoft — `Aug 2021 - Jan 2022`
Data & Applied Scientist [Bing Shopping]
- Developed 1) a query → product class (∼18k classes) model; 2) a relevance metric to improve offer ranking.

Siemens — `Jul 2019 - Aug 2021`
Research Engineer [Automation]
- Developed a CNN explainability and compression algorithm aimed at edge deployment.
- Used GAN-Dissection to procedurally generate traffic images for stress-testing traffic monitors (YOLO).
- Trained an RL agent to find edge-case safety violations of self-driving agents in a simulator.
- Developed a semantic search tool for codebases using Latent Semantic Analysis, and a Siemens social network post classification tool using statistical NLP. Work done during internships during 2017–2018.

Skills

Python ●●●●● **C++** ●●●●○ **Data Engineering** ●●●●●

ML Toolkits (`torch`, `transformers`, etc.) ●●●●● **Software Engineering** ●●●●○