

Ashwin Waghmare

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Education

Indian Institute of Technology, Dharwad [\[Website\]](#) Dharwad, Karnataka
B.Tech, Computer Science Engineering. 04/2025
Relevant Coursework: Artificial Intelligence, Pattern Recognition and Machine Learning, Deep Learning, Software Systems Laboratory, Software Development for Scientific Computing, Design and Analysis of Algorithms.
IITs are Institutes of National Importance in India. [\[1\]](#)

GNPS College [\[Website\]](#) Pune, Maharashtra
Higher Secondary Certificate Examination
Percentage : 92.19% 03/2021
Delivered the valedictory address as the top academic performer in my graduating class.

Bishop's School [\[Website\]](#) Pune, Maharashtra
Council for Indian School Certificate Examination (CISCE)
Percentage : 97.00% 03/2019
Awarded General Proficiency for academic performance and excellence in Computer Science.

Experience

Tata Motors Limited Pune, Maharashtra
Generative AI Research Engineer [\[Certificate\]](#) 05/2024 – 08/2024

- Pioneered Generative AI research for LLM based project, cutting outsourcing costs by roughly ₹30,000, for delivering precise corrective action summaries from user manuals to factory workers.
- Developed and deployed a RAG-based model, managing the entire data pipeline and web interface, achieving a 30% reduction in factory machinery maintenance time.

SCA IT Infrastructure Limited Pune, Maharashtra
Sales Assistant [\[Certificate\]](#) 11/2023 – 12/2023

- Developed and delivered professional sales presentations that highlighted product features, competitive advantages, and value propositions, leading to successful client acquisition and retention.
- Pitched and secured sales opportunities in corporate environments through active networking, establishing strong relationships with key decision-makers and driving business expansion.

Tata Technologies Limited Pune, Maharashtra
Machine Learning Intern [\[Certificate\]](#) 05/2023 – 08/2023

- Developed and deployed a time-series forecasting model, predicting manufacturing accidents with 85% accuracy and reducing incidents by 20%, enhancing workplace safety.
- Designed over 30 data visualization graphics, transforming complex data sets into clear and actionable visual insights that improved decision-making across departments.

Projects

Neuro-Symbolic AI for Resilient 6G Semantic Communication
[Project-Description](#)

- Developed a Neuro-Symbolic AI framework using GFlowNet and RNNLogic (Logic Tensor Networks) for intent-based semantic communication, integrating knowledge graph reasoning and causal understanding through Bayesian networks.
- Research article in collaboration with Prof. Rahul Pandya [\[1\]](#).

Deep Learning based Classification of Bacteria using Raman Spectroscopy

Project-Description

- Developed a deep learning model to classify bacterial based on Raman spectroscopy data, employing techniques such as data preprocessing, feature extraction, and model training to achieve high classification accuracy.
- Implemented data augmentation and neural network architectures to enhance model robustness, successfully distinguishing between multiple bacterial strains and improving diagnostic capabilities in microbial analysis.
- Interned at Integrated BioPhotonics Lab, IIT Dharwad, under Prof. Surya Pratap Singh [1]

Language Technology Development for Under-resourced Languages

Project-Description

- Collaborated with Prof. Anand Konjengbam [1] on research projects focused on the development of language technology for the Lambani language. Contributed to the preservation and digital representation of this tribal language by utilizing advanced techniques such as BERT for natural language processing and other research methodologies. Engaged in data collection, text analysis, and model fine-tuning to enhance language resources and tools for Lambani.
- Conducted extensive data collection and web scraping to gather over 10 GB of linguistic data, expanding the dataset available for research and development, and providing valuable contributions to ongoing research.

Leadership & Activities

Disha Institute

Social Worker

Wagholi, Pune

06/2024 – Present

- Coordinated with healthcare professionals and over 12 volunteers to ensure the efficient setup and operation of health camps, resulting in a 40% increase in community participation and improved access to healthcare services for over 100 individuals.
- Designed and implemented creative lesson plans for over 15 students with limited opportunities, using innovative teaching methods and materials.

PARSEC 3.0, IIT Dharwad

Event Manager

Dharwad, Karnataka

01/2023 – 04/2023

- Managed event budgets, achieving a 10% cost reduction compared to projections through strategic resource allocation, vendor negotiations, and effective cost control measures.
- Directed a team of 7 volunteers, increasing event execution efficiency by 30% through clear communication, optimized task distribution, and regular check-ins to ensure accountability.

Insolvent, IIT Dharwad

Finance Club Secretary

Dharwad, Karnataka

01/2022 – 01/2023

- Collaborated with top Finance and Management Institutes in India to organize 10+ seminars on stock markets and trading, attracting over 500 participants and enhancing the club's reputation in financial education.
- Led student training initiatives, improving the quality of financial education programs by 40%, which resulted in increased member engagement and satisfaction within the club setting.

Achievements

Avadhan, Institute Innovation Council [1]

- Won gold medal in case study competition Avadhan, providing valuable insights on Tata - Air India merger.

Skills & Interests

Soft Skills: Team Management, Problem Solving, Adaptability

Technical: Python, TensorFlow, Pytorch, Llama Index, LangChain, SciKitLearn, CUDA, C++, SQL, Git, Linux

Language: English, Hindi, Marathi

Laboratory: Artificial Intelligence, Data Structures and Algorithms, Deep Learning

Interests: Football, Cooking