Ashwin Waghmare

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Education

Indian Institute of Technology, Dharwad [Website]   Dharwad, Karnataka
B.Tech, Computer Science Engineering.   April, 2025
Relevant Coursework: Artificial Intelligence and Machine Learning, Deep Learning, Discrete Mathematics.

GNPS College [Website]   Pune, Maharashtra
Percentage : 92.19%   March 2021
Class Valedictorian.

Bishop's School [Website]   Pune, Maharashtra
Percentage : 97.00%   March 2019
General Proficiency in Computer Science.

Experience

Tata Motors Limited   Pune, Maharashtra
Deep Learning Intern [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.

Tata Technologies Limited   Pune, Maharashtra
Machine Learning Intern [Certificate]   05/2023 – 08/2023
- Designed over 30 data visualization graphics, transforming complex data sets into clear and actionable visual insights that improved decision-making across departments.
- Developed and deployed a time-series forecasting model, predicting manufacturing accidents with 85% accuracy and reducing incidents by 20%, enhancing workplace safety.

SCA IT Infrastructure Limited   Pune, Maharashtra
Sales Assistant [Certificate]   11/2023 – 12/2023
- Created professional sales presentations to demonstrate product features and competitive advantages.
- Pitched sales for active networking at corporations.
- Participated in workshops to advance skills.

Leadership & Activities

Disha Institute   Wagholi, Pune
Social worker   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   Dharwad, Karnataka
Event Lead   01/2023 – 04/2023
- Managed event budgets, delivering all activities 10% under projected costs through strategic resource allocation and cost control.

- Led a team of 7 volunteers, boosting event execution efficiency by 30% through effective communication and task management.

Insolvent, IIT Dharwad   Dharwad, Karnataka
Club Member   01/2022 – Present
- 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 as a leader 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.

Projects

Language Technology Development for Under-resourced Languages
- Collaborated with Prof. Anand Konjengbam[1] on research projects focused on the language technology development of the Lambani language, contributing to the preservation and digital representation of the tribal language.
- 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.

Developed strategic games with AI integration
GitHub   Demo-Video
- Checkers Game in Python: Created a terminal-based Checkers game with an AI bot powered by the Mini-Max Algorithm, enabling competitive play against an intelligent opponent. Optimized the AI's decision-making using Alpha-Beta Pruning Method to achieve a challenging and efficient game-play experience.
- Designed the game - Monopoly using C, allowing up to four players to compete in a turn-based format on the terminal. Achieved seamless game flow through advanced memory management techniques.

Encrypted Chatroom
GitHub   Demo-Video
- Developed a TCP socket-based system enabling secure, encrypted client communication and real-time video streaming. Integrated public key management for end-to-end encryption and real-time notifications for seamless connectivity.

Bus Booking Service
GitHub   Demo-Video
- Created a fully responsive and user-friendly website to facilitate seamless bus booking. Focused on intuitive navigation, enabling users to easily search, select, and reserve bus tickets.
- Fully integrated the website with a PostgreSQL backend database, enabling real-time data management for seat availability, schedules, and reservations.

Publications

Neuro Symbolic AI (NeSy-AI) Enabled Resilient Semantic Communication
- Submitted to IEEE, currently under approval.

Skills & Interests

Technical: Python, C, C++, Java, SQL, HTML & CSS, PHP, Javascript, Git, LaTex, Linux, PostgreSQL
Language: English, Hindi, Marathi
Laboratory: Artificial Intelligence, Data Structures and Algorithms, Deep Learning
Interests: Football, Cooking