

SHUBHRANSHU PATTNAIK

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EDUCATION

University of Southern California Los Angeles, CA
Master of Science in Applied Data Science | Thomas Lord Department of Computer Science May 2026

Chandigarh College Of Engineering & Technology, Panjab University Chandigarh, India
Bachelor of Engineering in Electronics and Communication Engineering June 2023

- Merit Scholarship recipient every year; Class Representative; Head of Robotics Society; Student Mentor 9.98/10 CGPA, Rank 2

TECHNICAL SKILLS

- Languages & Technologies: Python, JavaScript, C, Neural Networks, Node.js, Angular, Arduino, Git
- Libraries & Frameworks: TensorFlow, Keras, PyTorch, SciKit-learn, Pandas, NumPy, Seaborn, Matplotlib, OpenCV, LangChain
- Tools & Techniques: LLMs, Generative AI, Hugging Face, Quantization, Transformers, Deep Learning, Machine Learning, Computer Vision, Reinforcement Learning, SQL, REST APIs, Web Application Development, IoT, MATLAB, Linear Algebra, Calculus

WORK EXPERIENCE

Wayforward Intelligent Technologies Pvt. Ltd. (Contract) Haryana, India
Software Development Engineer December 2023-August 2024

- Led design and development of system architecture for an online citizen services portal with Node.js and Angular
- Enhanced database performance by reducing SQL query execution time by 30% and streamlined data integration

JungleWorks | JUGNOO Chandigarh, India
Software Development Engineer Intern (PPO Offered) January 2023-July 2023

- Constructed high-performance REST APIs, improving response times by 20% and accomplishing a 95% client satisfaction rate
- Optimized SQL queries for data management and operations, receiving highest performance rating among interns

Terminal Ballistics Research Laboratory (D.R.D.O) Haryana, India
Research Intern July 2022-August 2022

- Assessed weather parameters implementing correlation techniques (Pearson, Spearman, Kendall)
- Created a predictive model with 98% accuracy, leveraging Random Forest and SVM to predict meteorological effects on trials

Tech Mahindra Chandigarh, India
AI/Machine Learning Intern January 2022-April 2022

- Designed and executed tracking system with YOLOv3 (97% accuracy) and helmet-less rider detection software (93% accuracy)

PROJECTS

CUSTOM SENTIMENT ANALYSIS WITH DISTILBERT and DistilBertTokenizerFast April 2024-May 2024

- Fine-tuned and optimized distilbert-base-uncased NLP model using TensorFlow framework, attaining evaluation loss of 0.0192

LLM-POWERED SUMMARIZATION APP WITH T5-SMALL January 2024-February 2024

- Fine-tuned the T5-small model with 200,000+ samples and deployed AutoTokenizer for enhanced NLP summarization
- Achieved perfect ROUGE scores (ROUGE-1: 1.0, ROUGE-2: 1.0, ROUGE-L: 1.0, ROUGE-Lsum: 1.0) for summarization accuracy

UPPER TORSO HUMANOID (3rd prize, Innovative Product Design, Panjab University) July 2022-November 2022

- Built a humanoid with 97% face recognition accuracy, integrating gesture recognition, real-time facial emotion recognition, and sub-50ms emotion-to-emoji mapping using TensorFlow Lite and OpenCV
- Incorporated speech processing with RNN (Pyramidal Bi-LSTM Architecture) and attention, IoT devices, achieving a CER of 10.63

TRAFFIC SIGN DETECTION SOFTWARE July 2020-August 2020

- Developed a traffic sign detection system leveraging CNNs and YOLO, achieving over 95% accuracy with TensorFlow/Keras
- Enhanced performance with parallel computing techniques (GPU acceleration), improving video analysis

PUBLICATIONS AND PRESENTATIONS

- "Transfer Learning Framework for Antenna Array Fault Diagnosis with Real-time Monitoring of fault", Indian Academy of Sciences (in review)
- "Fault and Location Detection in Planar Antenna Array Using Tuned Stacking Ensemble Machine Learning Approach", Wireless & Personal Communication Springer - international SCI journal, April 2024 [\[Link\]](#)
- "Antenna Array Fault Diagnosis Using Particle Swarm Optimized CNN", MAPCON, IEEE conference, Dec 2023 [\[Link\]](#)