BONDU CHANDU

25202707
Master of Technology
in Mathematics and Computing
Dr. B. R. Ambedkar National Institute of Technology, Jalandhar

+91-6303461146
chanduchowdary8978@gmail.com
chandu.mc.25@nitj.ac.in
Portfolio
LinkedIn

Summary

I am a Machine Learning Engineer with a strong interest in understanding why models work, not just how to use them. My work combines mathematical foundations, convex optimization, and hands-on ML, including regression models and LSTM-based forecasting. I enjoy turning theory into practical, reliable ML solutions through careful experimentation and Python-based analysis.

Education

Degree	Institute	Board / University	CGPA	Year
M.Tech (Mathematics & Computing)	NIT Jalandhar	NIT Jalandhar	7.77 (Till 1st Sem)	2025–2027
B.Tech (CSE)	JNTU College of Engineering, Kalikiri	JNTU Anantapur	7.66	2020–2024

Experience

- **Indian Space Research Organisation (ISRO) – SDSC SHAR** *Feb 2024 – May 2024*
  Machine Learning Intern **GitHub**
  – Developed LSTM-based time-series forecasting models using real operational weather data.
  – Built an end-to-end training and evaluation pipeline for sequence modeling.
  – Analyzed model behavior focusing on error patterns, stability, and generalization.
  – Worked with constrained, real-world datasets and practical deployment considerations in a research environment.

Projects

- **Linear Models and Convex Optimization — Mathematical & Computational Analysis** *Nov 2025 – Jan 2026*
  NIT Jalandhar **Github**
  – Implemented linear and logistic models using Python on real datasets.
  – Studied convex sets, convex functions, and optimality conditions.
  – Applied gradient, subgradient, and proximal methods with GD/SGD/Mini-batch variants.
  – Used KKT conditions to analyze constrained optimization and regularization effects.

- **Performance-Aware Thermal Throttling Prediction using System Telemetry** *Sep 2025 – Nov 2025*
  Self Project **Github**
  – Built a machine learning system to **predict thermal throttling events** using system telemetry data.
  – Formulated the problem as a **classification task** to detect throttling in advance.
  – Developed a **regression model** to **predict future CPU temperature** at the predicted event time.
  – Performed feature engineering and time-aligned preprocessing to improve prediction stability and reliability.

- **Hyperparameter Optimisation using Machine Learning** *Nov 2023 – Jan 2024*
  Self Project **Github**
  – Explored grid and random search strategies for tuning model parameters.
  – Studied limitations of exact search and used approximate ranges to improve efficiency.
  – Developed a Streamlit-based GUI to upload datasets, tune parameters, and evaluate models.

- **Titanic Survival Prediction** *Sep 2023 – Nov 2023*
  Self Project **Github**
  – Focused on feature engineering and preprocessing for tabular classification problems.
  – Compared multiple classification models and evaluated their performance.
  – Achieved best accuracy of 0.825 using ensemble-based methods.

Ongoing Self-Study & Exploration

- Exploring gradient-based optimization methods from both mathematical and application-oriented perspectives.
- Studying convergence, stability, and generalization behavior across different optimization strategies.
- Analyzing proximal, constrained, and second-order methods with links to convex optimization and deep learning.
- Keeping track of modern deep learning optimizers and their practical trade-offs.

Technical Skills

- **Programming Languages:** Python, R, C, PostgreSQL
- **Machine Learning:** EDA, Model Training and Evaluation, Trade-offs
- **Optimisation & Math:** Gradient Descent, Convex Optimisation, KKT
- **Systems:** Operating System, Computer Architecture, Kernels
- **Tools:** Linux, Jupyter Notebook, VS Code, Git/GitHub, pgadmin4, Kafka