PRATEET MISHRA

+1 (510) 906-5850 | prateetm@usc.edu | https://www.linkedin.com/in/prateet-mishra/

Applied AI & Machine Learning Engineer

EDUCATION

University of Southern California — **Jan 2024 - Present**
Master's in Computer Science — GPA: **3.4/4**

Symbiosis University of Applied Sciences — **Aug 2019 - June 2023**
Bachelors of Technology in Computer Science and Information Technology — GPA: **9.23/10**

TECHNICAL SKILLS

- **AI / ML Technologies:** ML, NLP, LLMs, TensorFlow, Keras, Transformers, scikit-learn for predictive modeling and analysis
- **Data Science Tools:** NumPy, Pandas, Matplotlib, Seaborn
- **Database / ORM:** MySQL, SQLite, PostgreSQL, MongoDB, Prisma, Supabase
- **Frontend/Backend:** Front-end development (HTML5, CSS, JavaScript, TypeScript, Ajax, ReactJS, AngularJS, nextJS) and NodeJS, FireBase, Supabase and back-end scripting with Python

INTERNSHIP EXPERIENCE

Software Developer - NICT Technologies Pvt. Ltd., India — **Sep 2022 - Dec 2022**

- Constructed an NFT marketplace on Ethereum blockchain and ReactJS, integrating a content-based filtering recommendation system, boosting user engagement by 25% through personalized NFT suggestions based on activity and bidding history
- Increased user engagement by 25% through real-time protected NFT browsing and transactions
- Integrated MetaMask wallet to enable real-time, cryptographically verified ETH transactions, supporting 100+ NFT trades per day with zero transaction failures and full smart contract compliance, enhancing transaction security and trust
- Built and optimized core marketplace modules—user authentication, NFT minting, listing, and bidding—automating on-chain event handling for minting, transfers, and auctions, improving transaction throughput by 30% and reduced latency by 20%

Full Stack Developer - Ypsilon IT Solutions Pvt. Ltd., India — **June 2022 - Sep 2022**

- Devised a real-time Scrap Auction platform with Django and MySQL, facilitating 200+ concurrent bids and secure transactions through role-based logins (admin, user, seller) and custom dashboards, decreasing manual auction processing time by 40%.
- Designed and deployed dynamic UI components for product listing, bidding, and cart checkout, while building RESTful APIs with Django Rest Framework to support real-time data synchronization, reducing page latency by 25% and improving bid response rate by 30%.
- Implemented a collaborative filtering–based recommendation engine leveraging user bidding history and item preferences to personalize suggestions, increasing repeat participation by 18% and average bid value by 12%.

ACADEMIC PROJECTS

Transfer Learning for Image Classification[TensorFlow, Keras, OpenCV, and NumPy]:

- Developed a transfer-learning image-classification pipeline (ResNet50/101, EfficientNet-B0, VGG16) in TensorFlow/Keras & OpenCV to classify six outdoor scenes with optimized preprocessing, augmentation, and hyperparameter tuning
- Evaluated model effectiveness through precision, recall, F1-score, and ROC-AUC metrics. Achieved an accuracy of 0.9% with the EfficientNetB0 model outperformed other models by having low test loss and high test accuracy

SmartMedAI [Python, PyTorch/TensorFlow, Transformers, RL libraries, prompt engineering]:

- Architected a medical Q&A system by fine-tuning an LLM with RLAIF, utilizing a curated medical Q&A dataset for supervised training to enhance healthcare domain knowledge
- Engineered a reward model(via an evaluator LLM) to assess multiple candidate responses and analyzed reinforcement learning to iteratively refine model's outputs
- Optimized model performance through reinforcement learning, validated on 200 USMLE-style questions—boosting DeepSeek-R1 accuracy (0.769→0.805, +4.7%), BERTScore F1 (0.621→0.651, +4.8%), and BLEURT (0.527→0.568, +7.8%)

Real Estate Price Prediction[Numpy, Pandas, Scikit-learn, Flask]:

- Modeled a regression model in Python to predict Bengaluru BHK property prices with $R^2 = 0.87$, trained on 10K+ listings reflecting city's 2024 housing surge
- Deployed an interactive Flask web app, enabling real-time price forecasts and cutting down manual property evaluation time by ~60% for buyers

PUBLICATIONS

- "A deep convolution network-based Pneumonia identification from thoracic X-ray imagery scans", in the proceedings of 6th International World conference on smart trends in system, security and sustainability, 24th -27th August 2022, London, UK
- "Use of IoT in WiFi-based Home Automation System over the Cloud Using Arduino", in the transaction of The InternationalConference on Global Economic Revolutions (ICGER 2023), 27th -28th February 2023, Dubai, UAE