Ananya Deepak Deoghare

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TECHNICAL SKILLS

- **Languages:** Python, C++, Java, SQL, MATLAB
- **Frameworks/Libraries:** PyTorch, TensorFlow, Scikit-learn, Pandas, OpenCV, HuggingFace Transformers
- **Tools:** Git, AWS, Hive, Amazon Redshift, Tableau, Informatica
- **Concepts:** Deep Learning, NLP, LLMs, Generative AI, ASR, Statistical Modeling, Signal Processing, Feature Engineering, Computer Vision

EXPERIENCE

Algorithm Engineer — Jun 2023 – Present
Quinstreet — *Foster City, CA*

- Developed and optimized machine learning algorithms for predictive modeling and feature engineering, conducting comprehensive data analysis on a personal loans user database to identify key trends and patterns. Applied clustering algorithms and A/B testing to optimize click-through rates for advertisers, projected to increase engagement by 10%.
- Led end-to-end development of machine learning models, including Gradient Boosting Machines (GBM), leveraging hyperparameter tuning, cross-validation, and feature selection for ranking and predictive analysis in the banking and personal loans domain. Enhanced model accuracy and relevance, directly impacting business outcomes through improved decision-making and actionable insights.
- Conducted weekly algorithmic analysis of user interactions to refine machine learning models, leading to a 5% increase in accuracy and a 10% decrease in error rate.
- Applied extensive feature engineering and selection techniques to extract key predictive factors, significantly improving the efficiency, accuracy, and interpretability of the model for banking and personal loan data.
- Collaborated closely with data engineering and product teams to deploy search engine optimization (SEO)-driven machine learning models into production, ensuring real-time insights informed high-stakes decision-making.
- Conducted continuous model evaluation and algorithm development, using techniques in hyperparameter tuning and cross-validation to ensure robust, high-performing models aligned with business goals.
- Designed and implemented a computationally optimized simulator, leveraging Cython for performance enhancement, achieving a 50% reduction in processing time and ensuring robust alignment with production-grade standards.

Machine Learning Intern — Jun 2022 – Sep 2022
VidMob — *New York, NY*

- Built a deep learning model to score creative ad performance, improving scoring accuracy by 25%.
- Integrated predictive modeling and recommendation engines into an AI-driven ad-tech platform.
- Conducted model evaluation pipelines to assess ad engagement prediction, resulting in better client satisfaction by 5%.

Student Researcher — Jul 2020 – January 2023
University of California, Los Angeles(UCLA) — *Los Angeles, CA*

- Co-authored paper (SIGGRAPH 2022) on multimodal sensing using radar and RGB data for equitable rPPG.
- Proposed a Shift-Robust Loss Function for pulse prediction, decreasing error by 40%.
- Built ML pipelines to mitigate skin-tone bias using sensor fusion, improving fairness and accuracy by 75%.

Software Engineer & Data Analyst — Jun 2019 – Jul 2021
Accenture — *Bangalore, India*

- Improved pharma sales data analysis via automated data processing pipelines, reducing manual time by 50%.
- Boosted competitor match rate by 20% via advanced analytics, earning cross-region recognition.
- Participated in Accenture's Global Innovation Challenge as a semi-finalist.

EDUCATION

University of California, Los Angeles(UCLA) — Sept 2021 - Oct 2023
MS in Electrical and Computer Engineering [GPA: 3.97/4.0] — *Los Angeles, CA*

PES University — Aug 2015 - Aug 2019
BTech in Electronics and Communication Engineering — *Bangalore, India*

PROJECTS

- **Automatic Garbage Segregator:**
  1) Engineered a crane that could segregate waste into biodegradable, non-biodegradable, and electronic waste with an accuracy of 95.18%.

2) Tested various Feature Extraction techniques like PCA, LDR, and Convolutional Neural Networks.

- **Multi-Class EEG Motor Imagery Classification Using Deep Learning Architectures**
  1) Implemented various deep learning techniques, including CNNs, LSTMs, RNNs, VAEs, Transformers and attention to achieve multi-class classification accuracy of EEG signals for motor imagery tasks.
  2) Demonstrated the potential of deep learning techniques for EEG signal analysis by achieving a classification accuracy rate of 75% on the entire dataset.
- **Detecting Pulse from Head Movement:** I replicated the paper "Detecting Pulse from Head Movement" by Guha Balakrishnan, Fredo Durand, John Guttag.The code was able to detect the Heartbeat with an error of around 2-5%. The code was done in Python and it took around 2.5 weeks to complete

PUBLICATION & CERTIFICATIONS

SIGGRAPH 2022 Blending camera and 77 GHz radar sensing for equitable, robust plethysmography

EXTRACURRICULAR ACTIVITIES

- **Eyantra 2016 Robotics Competition**: Coached a team of 3 students to the semi-finals in a National Level Robotics Competition. Managed and delegated tasks effectively to meet deadlines. Designed a robot with navigation capability and an arm for object pickup.
- Professional Bharatanatyam dancer (Top 1% in Senior Exam)
- Presented at IEEE Symposium Series on Computational Intelligence
- Member, Center for Intelligent Systems at PES University
- Operations Lead, Epsilon 2016 (2000+ participants, 100+ events)