Lakshya Goyal

📞 +1 619-953-7241 ✉ lagoyal@ucsd.edu 🏠 La Jolla, CA 🔗 Portfolio in LinkedIn

Education

University of California San Diego | *GPA: 3.89/4.0* — La Jolla, CA
Master of Science in Machine Learning & Data Science — Sep '24 - Present

Birla Institute of Technology and Science Pilani | *GPA: 8.75/10* — Goa, India
Bachelors of Engineering, Electrical and Electronics — Aug '17 - Jun '21

Technical Skills

Languages & Tools: Python, C++, SQL, MATLAB, Pandas, NumPy, Matplotlib, Kotlin, Java
ML Frameworks: PyTorch, TensorFlow, Scikit-learn, Transformers, Machine Learning, Natural Language Processing, Deep Learning Algorithms, Causal Inference, Statistics, LangChain, Time-Series, LLM Fine-tuning
Technologies: PySpark, Hadoop, Google Cloud Platform, AWS, Docker, Kubernetes, Redis, Airflow, Kafka

Work Experience

Amazon Prime Video — Seattle, WA
Software Engineering Intern | *Piracy, Fraud & Abuse Detection* — Jun '25 - Sep '25
- Developed a proof-of-concept for securing subtitle content (through DRM) by modifying an **open-sourced media player** and integrating it with a **backend AWS Lambda service**, enabling secure end-to-end subtitle streaming
- Evaluated playback performance with secure streaming using **latency metrics: Time to First Subtitle (TTFS), Time to First Subtitle Appearance (TTFSA), and track change delay**

Flipkart Internet Private Limited — Bengaluru, India
Software Engineer II | *Seller Pricing* — Jan '24 - Aug '24
- Led the implementation of the Rewards Ecosystem leveraging **Docker** and **Kubernetes**, streamlining execution and automation, which contributed to a **20% customer** adoption rate in the first month
- Transformed the Price recommendation engine combining **FastText-based** Similar-Product and Inventory-Aware pricing, dynamically adjusting prices across **5M+ SKUs** for automated seller price suggestions, improving **seller adoption by 10%**, **seller retention by 8%**, and **reduced stock-outs by 6%**,

Software Engineer | *Seller Pricing* — July '21 - Dec '23
- Scaled the Elasticsearch cluster to handle 5M writes, reducing p99 latency for APIs, achieving **sub-30 ms for the point lookup API** and **sub-300 ms for the aggregated search and pagination API**
- Developed a transformer-based model focused on semantic and orthographic corrections in product titles, improving embedding quality for downstream tasks and search relevance across 5M+ SKUs

Software Engineering Intern — Jan '21 - Jun '21
- Enhanced product ranking through **feature engineering** by utilizing **Click-Through Rate** (CTR) and **Conversion Rate** (CVR), following discussions with product managers and business stakeholders.

Research Experience & Projects

Wildfire Smoke Detection | *San Diego Supercomputer Center* — UC San Diego
*Student Researcher (**Github**) | Dr. Mai H. Nguyen, Associate Director* — Feb '25 - Present
- Performed comparative benchmarking of **multimodal LLMs** (LLaVA, Llama3.2, Qwen2.5, InternVL) on 500+ fire sequence images and weather data, using prompt engineering and gridding for fire localization and confidence scoring.
- Adapted multimodal LLMs via **few-shot learning** and **PEFT fine-tuning** (LoRA), optimizing inference through FlashAttention and GPipe partitioning across GPUs for efficient deployment.

Neuro Profiling | *Department of Neurosciences* — UC San Diego
*Hnasko Lab(**Github**) | Dr.Thomas Hnasko* — Feb '25 - Present
- Implemented computer vision methods to identify **SNC neurons** and their ventral/dorsal boundaries, quantifying spatial distribution through neuron-to-boundary distance measurements.

WayShield-Motion-Planning | *Planning & Learning Robotics* — UC San Diego
*Course Project (**Github**) | Prof. Nikolay Atanasov* — Spring'25
- Developed a collision-free motion planning system using search and sampling-based algorithms over a 3D grid to enable safe and efficient robot navigation.