

## EXPERIENCE

- **Aviary** 2024  
*Machine Learning & AI*
  - Researching and building something new in video understanding, stay tuned.
- **Snap, Inc. (Snapchat)** 2016 - 2024  
*Staff Machine Learning Engineer, Tech Lead Manager (Multimodal AI, Perception, Ads Understanding)*
  - Launched Snapchat's first generative AI powered visual enhancement system for product advertisements
  - Drove development, data collection / labeling & training / fine-tuning process of Snap's in-house video captioner
  - Drove implementation of camera unlocking experience that enables AR content to be unlocked by scanning arbitrary images; used in thousands of lenses & high profile partner integrations as seen at the Super Bowl & Cannes
  - Launched visual classification via Scan Module in Snapchat's Lens Studio which gives AR creators the ability to recognize 500+ object types across 4 categories (Objects, Places, Cars, Dogs) within a Snapchat lens
  - Drove development of Snap's in-house emoji-aware OCR service used by scan visual search, platform integrity ads, spotlight and content moderation; drove wins across company, e.g. improved spam detection by 168%, reduced human moderation cost by \$130k/yr. increased engagement bait detection by 160%
  - Drove implementation of 10B scale reverse image search capabilities for Scan, and deployed supporting infrastructure including focused web crawling and large scale web archiving / data warehousing solutions
  - Authored billion+ scale vector similarity search engine that powers visual search use cases (e.g. fashion, product, lenses) and content-based machine learning data collection pipelines (e.g. visually or audio similar media & cross-modal retrieval) used to collect candidate training data for 50+ ML use cases at Snap
  - Owner of machine learning infrastructure track / job family at Snap, defined job requirements and hiring criteria; owned cost goals for org and cut costs by millions of dollars per year; helped define LLM usage policies in engineering
- **Amazon.com, Inc.** 2011 - 2016
- **Language Technologies Institute (Carnegie Mellon University)** 2009-2011
- **Space and Naval Warfare Systems Command (SPAWAR)** 2009
- **National Institute of Standards and Technology (NIST)** 2007

## EDUCATION

- **Carnegie Mellon University** 2011  
*Master of Computer Science in Language Technologies*
- **University of Texas at Arlington** 2009  
*Bachelor of Science in Software Engineering & Physics (double major)*

## TECHNOLOGIES

- **AI / Machine Learning:** Multimodal AI, Information Retrieval, Computer Vision, Language Technology, LLMs
- **Infrastructure:** Python, Go, AWS, GCP, Vector DBs, K8s, Ray, LangChain, LlamaIndex, NoSQL, Big Data

## SELECT TALKS &amp; PUBLICATIONS

- **Multimodal Structured Extraction for Self-Querying Music Video Retrieval and Playlist Generation**  
*K Dela Rosa* Late Breaking Demo @ ISMIR, 2024
- **Structured Entity Extraction from Travel Videos Using Vision-Language Models**  
*K Dela Rosa* RecTour @ RecSys, 2024
- **Video Enriched Retrieval Augmented Generation using Aligned Video Captions**  
*K Dela Rosa* MRR @ SIGIR, 2024
- **Multimodality-guided Image Style Transfer using Cross-modal GAN Inversion**  
*H Wang, P Wu, K Dela Rosa, C Wang, A Shrivastava* WACV, 2024
- **FORB: A Flat Object Retrieval Benchmark for Universal Image Embedding**  
*P Wu, S Wang, K Dela Rosa, DH Hu* NeurIPS, 2023
- **Open-Vocabulary Object Detection Using Captions**  
*A Zareian, K Dela Rosa, DH Hu, SF Chang* CVPR, 2021
- **MLOps at Snapchat: Continuous Machine Learning with Kubeflow & Spinnaker**  
*K Dela Rosa* Kubecon, 2020
- **Build accurate training datasets with Amazon SageMaker Ground Truth**  
*V Madan, K Dela Rosa* AWS re:Invent, 2019