Kevin Dela Rosa

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EXPERIENCE

- **Snap, Inc. (Snapchat)**   Seattle, WA
  Staff Machine Learning Engineer, Tech Lead Manager (Multimodal AI, Advanced Understanding, Perception)   2016 - 2024
  - 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%
  - 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
  - Trained & deployed computer vision models powering Scan including scene tagger, sky segmentation, hand detection
  - Contributed to backend & iOS/Android apps for context cards, widgets, search, messaging, friending & scan features
  - 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 polices in engineering
- **Amazon.com, Inc.**   Seattle, WA
  Software Development Engineer II   2011 - 2016
  - Developed software for product de-duplication system that continuously improves Amazon.com catalog quality
  - Contributed catalog validation logic & matching criteria; launched over 30 new Amazon.com product categories

TECHNOLOGIES & KEYWORDS

- **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, PATENTS, & PUBLICATIONS (800+ CITATIONS)

- **Structured Entity Extraction from Travel Videos Using Vision-Language Models**   RecTour @ RecSys
  K Dela Rosa   2024
- **Video Enriched Retrieval Augmented Generation using Aligned Video Captions**   MRR @ SIGIR
  K Dela Rosa   2024
- **Multimodality-guided Image Style Transfer using Cross-modal GAN Inversion**   WACV
  H Wang, P Wu, K Dela Rosa, C Wang, A Shrivastava   2024
- **FORB: A Flat Object Retrieval Benchmark for Universal Image Embedding**   NeurIPS
  P Wu, S Wang, K Dela Rosa, DH Hu   2023
- **Video matching with a messaging application / US11823456**   US Patent
  K Dela Rosa, H Hu, A Huang   2023
- **Open-Vocabulary Object Detection Using Captions**   CVPR
  A Zareian, K Dela Rosa, DH Hu, SF Chang   2021
- **MLOps at Snapchat: Continuous Machine Learning with Kubeflow & Spinnaker**   Kubecon
  K Dela Rosa   2020
- **Build accurate training datasets with Amazon SageMaker Ground Truth**   AWS re:Invent
  V Madan, K Dela Rosa   2019
- **Topical Clustering of Tweets**   Social Web & Mining @ SIGIR
  K Dela Rosa, R Shah, B Lin, A Gershman, R Frederking   2011

EDUCATION

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