Alvin Chen

Sunnyvale, CA | alvin.chen@colorado.edu | alvin-pc-chen.github.io | linkedin.com/in/alvin-pc-chen/

EDUCATION

University of Colorado, Boulder   **2023-2025**
Master of Science in Computational Linguistics   Boulder, CO

Johns Hopkins University   **2015-2019**
Bachelor of Arts in Economics and in International Studies   Baltimore, MD

SKILLS

Languages: Python, C++, SQL, JavaScript, React.js, Flask, Django ORM, Spark
Frameworks: PyTorch, TensorFlow, Scikit-Learn, Pandas, Numpy, Kubernetes, Docker, GCP, CUDA
Competencies: Neurosymboblic methods, causal interpretability, AI evaluation strategies, data annotation strategies, data quality management, synthetic data generation, RAG, RLHF

EXPERIENCE

BLAST Lab   **2023 - Present**
Researcher   Boulder, CO

- Achieved #1 result on SemEval 2024 Task 9 leaderboard using chain-of-thought prompting
- Designed an evaluation framework for human-in-the-loop qualitative research tools and identified two key design recommendations
- Built AI-assisted qualitative research tool for mediating collaborator disagreement
- Developed a novel prompt-tuning method to learn concepts directly from LLMs and achieved F1 = 0.86, beating current LLM performance

University of Colorado, Boulder   **2023 - 2025**
Machine Learning Engineer   Boulder, CO

- Ran LLM probing experiments to identify optimal hidden layer and token coordinates for aspect representation; improved downstream task performance by 41.7% [blog]
- Trained graph neural network with logic rules for aspect labeling, achieved F1 = 0.34 and beat most LLMs
- Deployed annotation tool on GCP and improved average annotation speed by 28.2%
- Retrofitted and cleaned dataset of ~30k UMR graphs for public release [lindat]

Johnson & Johnson   **2020-2022**
Data Intelligence Associate Manager   Shanghai, China

- Lead project to standardize nationwide sales data by automating data collection pipeline using PowerBI and developing Tableau dashboard; increased business visibility by ~20%
- Managed Listerine & Aveeno ecommerce holiday campaigns including ad buy, demographics selection, and graphics A/B testing, increasing campaign revenue 11% YoY
- Supervised ecommerce data vendors and ad agencies and negotiated contracts using ROI benchmarks

PUBLICATIONS

BrainTeaser QA | arxiv.org/abs/2405.02517 | github.com/alvin-pc-chen/semeval_brainteaser
Human-in-the-loop chain-of-thought prompting method to induce lateral thinking in LLMs

Interactive Systems | arxiv.org/abs/2408.09030 | github.com/blast-cu/interactive-systems
Novel evaluation strategy for AI-assisted qualitative research tools to uncover systematic biases

Concept Embeddings (preprint)
Novel prompt-tuning architecture to learn high level representations of concepts directly from the model

GCN for UMR Aspect (preprint)
Graph Neural Network using neurosymbolic logic rules for linguistic aspect prediction