

Mudit Chaudhary

Graduate Student looking for Summer 2022 Internship

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Education

University of Massachusetts Amherst

M.S. in Computer Science | Concentration: Data Science | CGPA: 4.00/4.00

Relevant Courses: Systems for Data Science, Neural Networks

Amherst, MA

Sep 2021 - May 2023

The Chinese University of Hong Kong

B.Sc. in Computer Science | Concentration: Intelligent Science

Minor: Data Analytics and Informatics

Relevant Courses: Machine Learning, Artificial Intelligence, Linear Algebra and Vector Calculus, Algorithms, Database Systems, Operating Systems, Software Engineering, Data Science

Scholarships and Awards: Dean's List, College Head's List, College Academic Prizes, Honors at Entrance, Full-tuition Scholarship

Hong Kong

Sep 2016 - May 2020

Work and Research Experience

NLP Graduate Student Researcher

Information Extraction and Synthesis Laboratory (IESL) (Supervisor: Prof. Andrew McCallum)

▪ Researching methods to improve Dense Passage Retriever (DPR) using a case-based reasoning paradigm for Information Retrieval Systems

Amherst, MA

Sep 2021 - Present

Full-time NLP Research Assistant

The Chinese University of Hong Kong (Supervisor: Prof. Helen Meng)

- Researched on Dialog Systems and Cross-lingual Hyperbolic Word Embedding and submitted papers to major conferences
- Participated in the 9th Dialog System Technology Challenge (DSTC9) and qualified as top finalists with a workshop paper accepted at DSTC9 workshop at AACL-2021
- Assisted in the development and deployment of a knowledge-grounded dialog system that extracts information from unstructured knowledge for queries outside the structured database
- Researched and developed cross-lingual word representations in hyperbolic space with potential uses in downstream NLP tasks such as translation and cross-lingual lexical entailment
- Developed and deployed Aspect-Based Sentiment Analysis and Voice Conversion deep learning models to production as Web APIs and scaled to production using Docker
- Improved API throughput by implementing asynchronous queue workers using Celery and Redis
- Maintained and configured GPU servers for model development, training, and deployment

Hong Kong

Aug 2020 - Aug 2021

Deep Learning Summer Intern

Logistics and Supply Chain MultiTech (LSCM) R&D Centre (Supervisor: Dr. Dorbin Ng)

- Researched, developed, and trained Transformer based neural machine translation model and deep learning sequence models for business arbitration domain
- Generated computational resource estimations for the models and performed feasibility analysis
- Designed and developed a deep learning model system to learn non-verbal features in conversational setting from audio and video media for chatbot augmentation

Hong Kong

Jun 2019 - Aug 2019

Major Projects and Publications

- **Unstructured Knowledge Access in Task-oriented Dialog Modeling using Language Inference, Knowledge Retrieval and Knowledge-Integrative Response Generation:** Workshop paper accepted for AACL-21 Conference's Dialog Systems Technology Challenge 9 (DSTC9) Workshop [\[arXiv:2101.06066\]](https://arxiv.org/abs/2101.06066) [\[Github\]](#)
- **Improved RepPoints Object Detection Model with Attention:** Used training balancing methodologies and developed a novel transformer-based attention mechanism for RepPoints [\[Github\]](#)
- **Small Sample Learning:** Food Classification from a small training sample. Project for Huawei AI Cloud Developer Challenge 2019 (Top 10 Finalists) [\[Github\]](#)
- **Pruning ResNet:** One-shot and iterative pruning method implementations for ResNet
- **Dialog Breakdown Detection:** An AI-based system to detect dialog breakdown in chatbots

Skills and Certifications

Machine Learning and NLP: PyTorch, Keras, Tensorflow, Gensim, Sci-kit Learn, Huggingface, SpaCy, Numpy

Programming Languages: Python, Java, Kotlin, C++, C

Software Development and Misc.: Linux, Docker, Flask, Django, RESTful API, Android app development, Git, Apache JMeter, MongoDB, MySQL, SparkSQL, Celery, Redis, Gunicorn, PySpark, MapReduce

Certifications: Microsoft Azure AI Fundamentals AI-900 Credential ID: oQCV-uSoV