Josh Chang

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Education

Columbia University — New York, NY
MS in Computer Science — Sep 2021 – Expected Dec 2022

National Taiwan University (NTU) — Taipei, Taiwan
BS in Computer Science & Information Engineering — Sep 2016 – Jan 2021

Experience

Apple — Seattle, WA
Machine Learning Intern — May 2022 – Aug 2022
- Proposed a Teacher Assistant (TA) Knowledge Distillation framework for multilingual machine translation model.
- Researched on feature-based knowledge distillation approach to transfer knowledge more effectively for MT system.
- Improved overall BLEU score by 0.5 compared to the baseline which directly distilled from teacher model.

Yahoo — Taipei, Taiwan
Data Research Intern — Jul 2021 – Aug 2021
- Developed an E-Commerce recommendation system using BERT based on media news headline and abstract.
- Pre-trained and fine-tuned GPT-2 model to automatically generate slogans for recommended items.

Cathay Life Insurance — Taipei, Taiwan
Machine Learning Intern — Jul 2020 – Aug 2020
- Established on a fraud detection system using Neo4j, Graph Neural Networks (GNN) and Decision Tree models.
- Increased accuracy by 2% by applying graph-related features to original LightGBM model.

IBM — Taipei, Taiwan
AI Engineering Intern — Jul 2019 – Aug 2019
- Achieved 99% accuracy and decreased model size to 1.5% with model compression approach for detecting ear diseases.
- Led intern team members in IBM Design Thinking Workshop, organized weekly meeting, and finally won 2nd prize on final presentation among 12 intern teams.

Machine Intelligence & Understanding Laboratory, NTU — Taipei, Taiwan
Undergraduate Researcher — Sep 2018 – Jun 2020
- Published a workshop paper, **"Leveraging Speaker Profile and Knowledge Enrichment for End-to-End Advising Response Ranking"**, as the first author in **DSTC8, AAAI-2020**.
- Presented final research project in the field of goal-oriented dialogue system to 200+ students and was awarded honorable mention prize in NTU CS department.

Projects

Yelp Review Re-rating System — Oct 2021 – Dec 2021
- Built ML pipeline using AWS, SageMaker, CloudWatch, and Lambda, re-adjusted Yelp rating in real-time.
- Fine-tuned BERT review rating model and achieved 80% positive feedback with new rating by human evaluation.

Graph Neural Networks(GNN) in Tensorflow — Jul 2020 – Nov 2020
- Contributed to **Neural Structure Learning, Tensorflow** (900+ stars on Github).
- Implemented three state-of-the-art GNN models using Tensorflow: GCN, GAT, GIN.
- Achieved better accuracy compared to original research papers running on the Cora dataset.

Awards

2021	**Ranked 21 / 852 teams (Silver Medal)**, Kaggle - MLB Player Digital Engagement Forecasting
2020	**1st prize (out of 469 teams)**, 2019 Taiwan AI Cup – Thesis Tagging Competition
2019	**1st prize (out of 244 teams)**, 2019 Cathay Big Data Competition

Technical Skills

Programming Languages: Python, C++, Java, HTML/CSS, SQL
Tools/Frameworks: Pytorch, Tensorflow, Keras, Scikit-learn, AWS, Git, Flask