Shih-Yi (Matteo), Soo

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EDUCATION

National Tsing Hua University   **Hsinchu, Taiwan**
M.S. in Computer Science   *September 2018 - April 2021*

Soochow University   **Taipei, Taiwan**
B.S. in Computer Science and Information Management   *September 2014 - June 2018*

WORK EXPERIENCE

E.sun Financial Holding Corporation, Ltd   **Taipei, Taiwan**
Machine Learning Engineer   *July 2021 - Present*

· Natural Language Processing (NLP)

- Built a financial knowledge Q&A system using RAG with LLM generators and modular end-to-end pipeline, achieving an accuracy of 0.94 on internal knowledge base evaluation.

- Implemented BERT-based models for 12 conversational chatbot service, allowing flexible deployment of custom Questions by using Kubernetes (k8s).

- Deployed a gateway API to enhance the efficiency of maintenance process, handling over a thousand API service calls per month.

· Text to Speech (TTS)

- Fine-tuned VITS model based on IPA encoding to address cross-lingual issues commonly encountered by speakers, currently supporting 4 languages (Chinese, English, Korean, and Japanese) interleaving.

- Built an in-house TTS service with an impressive real-time factor of 0.3, and organized a self-timbre voice dataset (near 20 hours) to train a prosodic TTS model based on Tacotron2.

· Recommender system

- Developing a recommendation system for a mobile app banner, utilizing data from 9 million users and constructing over a hundred features using the Spark framework and DeepFM model architecture. The offline experimental results yielded an AUC of 0.594 and a recall of 0.920.

Walsin Lihwa Corporation   **Taipei, Taiwan**
Software Engineer - intership   *April 2018 - July 2018*

· Applied the PageRank algorithm on text summarize for the specific industrial know-how and used bi-LSTM model to generate a summary information for factories.

PROJECTS

Singing Voice Synthesis with Vocal Harmony   *March 2019 - September 2019*

· Used WORLD vocoder as the reconstructed waveform basis to synthesize a two-part harmony vocals with low-distortion solution and abiding by counterpoint music composition theory.

· Honor: CTCI Foundation - AI Innovative Competition, 3nd place of AI & Arts (and NT$200,000 in prize money)

TECHNICAL SKILLS

Programming Languages	Python, C++, Java
Deep Learning Framework	PyTorch, TensorFlow
Others	Linux, Docker, Kubernetes, FastAPI, Git, LaTeX