

# Chow Siew Yeng

LANGUAGE ENGINEER · COMPUTATIONAL LINGUIST

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## Experience

### AI Singapore

Singapore

AI APPRENTICE

Aug. 2023 - May 2024

- Completed intensive course involving topics such as time-series, Neural Networks and MLOps.
- Developed advanced LLM agents capable of conversing through Time Weighted Memory Retrieval, showcasing innovation in AI conversation systems.
- Successfully deployed these agents on Streamlit, enabling real-time user interactions and enhancing user experience.
- Utilized prompt engineering techniques to steer LLMs towards generating targeted outputs, ensuring alignment with project goals.
- Completed end-to-end Inverse Text Normalization model trained with Pytorch lightning using a Transformer within an agile environment, collaborating with the principal investigator to build an AI solution for the product sponsor.
- Working on Linux-based code server, making use of MLFlow for experimentation logging.
- Experienced in using docker registry, cloud storage and artifact registry in google cloud platform with cli.

### Transperfect

Singapore

LANGUAGE ENGINEER

Mar. 2022 - Aug. 2023

- Collaborated with global teams to improve digital assistant's proficiency in Singapore English and localised user experience.
- Acted as a subject matter expert, creating guidelines that drive locale-specific phonetic transcription for ASR, reducing speech recognition error rates in the region.
- Analysed speech model data to identify utterance misrecognitions and engineer data-driven augmentations to the model, raising end-to-end performance.
- Leveraged Docker for continuous testing, ensuring high quality of training dataset used for new model development.
- Assigned work to and guided a team of 3 data curators, fostering their skills in accurate transcription and data output.

### A\*STAR (Institute of Higher Performance Computing and Institute of Infocomm Research)

Singapore

INTERN

Jan. 2021 - Mar. 2021

- Trained CNN and MLP models for computer vision (CV) task of mapping facial landmarks to 7 distinct emotions, enhancing online learning tools in the COVID context.
- Researched on Discourse Representation Structure and evaluation benchmarks in Natural Language Inference (NLI), offering linguistic expertise to a query answering project.

### Nanyang Technological University

Singapore

TEACHING ASSISTANT

Aug. 2020 - Dec. 2020

- Delivered comprehensive conceptual support in semantics and pragmatics to over 50 undergraduates, enhancing their academic understanding.
- Provided consultations and delivered weekly tutorials on concepts such as logical grammar, set theory and non-classical logics.
- Strategised lesson flow, guided discussion, graded group assignments and promoted understanding of linguistic concepts.

### Nanyang Technological University

Singapore

RESEARCH ASSISTANT

Dec. 2017 - Mar. 2021

- Conducted in-depth analysis of over 3000 sentences, primarily focusing on grammatically incorrect sentences, to refine treebanking software for text parsing.
- Supervised adjudication between various pairs of annotators to facilitate inter-annotator agreement and quality of gold data.

### Worldwide Opportunities on Organic Farms

Galway, Ireland

VOLUNTEER

Aug 2019

- Learnt about sustainable agriculture and living.
- Handled daily farm operations including harvesting and planting.

### Lions Befrienders

Singapore

RESEARCH INTERN

May. 2018 - Jul 2018

- Co-developed and executed a health-centric project, promoting active lifestyles among 20 socially isolated elderly individuals.
- Designed, translated, and carried out Mandarin/English questionnaires tracking activity and motivation of the elderly.
- Conducted literature review and research on befriending mechanisms to improve volunteer training.

# Skills

<b>Machine Learning</b>	Neural Network, LLM, Pytorch
<b>NLP</b>	NLTK, Regex, Inverse Text Normalisation, Transformers
<b>Programming</b>	Python, React Native, SQL, LaTeX, Bash
<b>Languages</b>	English, Cantonese, Mandarin, German (B2), Japanese (basic)

# Education

## Nanyang Technological University

M.A. (RESEARCH) IN COMPUTATIONAL LINGUISTICS

Singapore

Jan. 2020 - Dec. 2021

- GPA: 5.00/5.00.
- LREC 2022 publication: Singlish Where Got Rules One?.
- Built a rule-based syntactic parser for Singlish.
- Recipient of Research Scholarship.

## Technische Universität Dresden

GERMAN SUMMER COURSE

Online

Jun 2021

- Scholarship recipient under the German Academic Exchange Services (DAAD).

## Nanyang Technological University

B.A. IN LINGUISTICS AND MULTILINGUAL STUDIES

Singapore

Aug. 2015 - Jun. 2019

- Graduated with Honours (Highest Distinction).
- Minor: Mathematics.
- Recipient of College Scholarship.

## Kansai Gaidai

ASIAN STUDIES PROGRAM

Osaka, Japan

Jan. 2017 - Jun. 2017

- Educated on the appreciation of Japanese art forms and lifestyle.
- Analysed justice systems with focus on America and Japan.

# Projects

## Eurali (LREC-COLING) 2022

THIS WORD MEAN WHAT: CONSTRUCTING A SINGLISH DICTIONARY WITH CHATGPT

Torino, Italy

May 2024 (to be presented)

- Created new open-source resource for Singlish using ChatGPT through continuous API calls.
- Annotated and analysed findings according to results of annotation.
- Collaborated on dictionary front-end using typescript and svelte.

## LREC 2022

SINGLISH WHERE GOT RULES ONE

Marseille, France

May 2022

- Developed a formal grammar of Singlish that can generate syntactic trees and DMRS from input sentences.
- Increased accuracy in parsing Singlish sentences from 46.7% to 70.0%.
- Presented findings and international DELPH-IN summits and LREC 2022.

## TiMi Studio and Tencent

GREEN GAME JAM

International (online)

Jul. 2021 - Aug 2021

- Top 16 out of 200 teams globally.
- Created an original game to the theme of environmental conservation.

## Defence Science and Technology Agency (DSTA)

BRAINHACK

Singapore

Jun 2021

- Top 8 of over 40 participating university teams.
- Implemented neural network and used filtered data, optimising model for Computer Vision challenge.

# Courses

2022	<b>Mathematics for Machine Learning Specialization</b> , Coursera
2022	<b>Natural Language Processing with Probabilistic Models</b> , DeepLearning.AI
2022	<b>Natural Language Processing with Classification and Vector Spaces</b> , DeepLearning.AI
2021	<b>11th Lisbon Machine Learning School</b> , Instituto Superior Técnico