

CHONGFENG LING

Actively Seeking (Research) Software Development Engineer Roles in London, UK.

 [chongfengling.github.io](https://github.com/chongfengling)  career.ling@outlook.com  [Chongfeng Ling](#)  [chongfengling](#)

Education

University College London

Sept. 2022 – Sept. 2023

Master of Science in Scientific and Data Intensive Computing, Merit

London, UK

University of Liverpool

June 2022

Bachelor of Science in Applied Mathematics, First Class Honours

Liverpool, UK

Xi'an Jiaotong-Liverpool University

Sept. 2017 – June 2022

Bachelor of Science in Applied Mathematics, First Class Honours

Jiangsu, China

Experience

Optimising MRI Pulse Sequence using Reinforcement Learning [\[repo\]](#)

May. 2023 – Aug. 2023

Master's thesis

London, UK

- Optimized the gradient-echo sequences for 1-D objects by employing the Deep Deterministic Policy Gradient (DDPG) algorithm, while considering constraints on gradient slew rate.
- Developed an environment utilizing Bloch equations to simulate signal acquisition through the interaction between gradients and objects, followed by reconstruction via Fourier transforms.

Mathartsys, Inc

Feb. 2021 – Sept. 2021

Algorithm Research (NLP) Intern

Shanghai, China

- Generated and maintained scripts to pull and visualize remote data automatically.
- Modified, segmented and augmented voice transcription text based on Regular Expression and Word Embedding.
- Built a multitasking NLP system with BERT and provided support for the company's downstream business including forum public opinion analysis (Sentiment Classification) and sales voice quality (Named Entity Recognition).

Indoor Localization Based on Wi-Fi Fingerprinting and CNN

June 2018 – Aug. 2018

Research Assistant, Summer Undergraduate Research Fellowships in XJTU

Jiangsu, China

- Presented a new location fingerprinting database comprised of Wi-Fi received signal strength (RSS) and geomagnetic field intensity measured with multiple devices at a multi-floor building.
- Mapped RSS data for a reference point to an image-like, two-dimensional array and provided preliminary results of localization based on Convolutional Neural Network.
- Used a modified random way point model to efficiently generate continuous step traces to imitate human walking.

Projects

A Virtual Solar System | *c++*, *OpenMP*, *MPI* [\[repo\]](#)

- Engineered a high-performance implementation of an n-body planetary system, assessing performance and energy loss through step size benchmarking.
- Utilized OpenMP to parallelize the algorithm, with potential deployment on an HPC cluster using MPI.

Game of Life | *c++*, *cmake*, *ctest* [\[repo\]](#)

- Designed and implemented a simulation program for Conway's Game of Life, encompassing class construction, unit testing, and the development of a versatile simulation application capable of handling diverse initial conditions.
- Investigated stationary patterns arising from specific initial configurations.

Kernel Method Projects | *python*, *numpy*, *scipy* [\[repo\]](#)

- Implemented Kernel Ridge Regression to predict house prices, contrasting its performance with Linear Regression.
- Designed and optimized a kernel perceptron algorithm for classifying handwritten digits, extending its functionality from binary classification to multiclass classification. Conducted comparative analyses of Gaussian and polynomial kernels using confusion matrices, and utilized cross-validation for hyperparameter selection.

Python Software Development Project | *python*, *Sphinx*, *numpy*

- Developed a Python package for analyzing temporal water level disparities. Employed NumPy and Matplotlib for data processing and visualization, with features including scaling, overlaying, and visualization of water level data.
- Generated documentation for unit and module testing. Implemented CI using the Github Actions platform.
- Collaborated within a team of five members utilizing GitHub issue tracking, pull requests for coordination.

Awesome-XJTU | *Github Pages* [\[repo\]](#)

- Led the development of an open source knowledge-sharing platform on Github Pages tailored for undergraduates, encompassing course notes, internship consultation, and graduate program information.