Chi-Hsien (Salima) Chang

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RESEARCH INTERESTS

Symbolic Regression, Genetic Programming, Machine Learning, Optimization Algorithm

EDUCATION

National Taiwan University (NTU) Sep. 2018 – Aug. 2024 (Expected)
Doctor of Science in Computer Science; GPA: **4.00/4.30**
Research Topic: Module-building Genetic Programming
Advisor: Prof. Tian-Li Yu

National Taiwan University (NTU) Sep. 2016 – Jun. 2018
Master of Science in Statistics Science; GPA: **3.71/4.30**
Thesis Title: Statistical Analysis of the Application of Augmented Reality in the Salah Learning System
Advisor: Prof. Cheng-Ying Chou and Prof. Yi-Ping Hung

National Chengchi University (NCCU) Sep. 2013 – Jun. 2016
Bachelor of Science in Mathematical Science; GPA: **3.22/4.30**

EXPERIENCE

Research Intern, United States Department of Agriculture Feb. 2023 – Present
- Develop a plugin that automatically adds link outs to the national center for biotechnology information (NCBI) feature page if a feature has NCBI ids on JBrowse, a new kind of genome browser that runs on the web, desktop, or embedded in an app. The plugin is now available on GitHub and in the Plugin Store.

Machine Learning Researcher, NTU Feb. 2021 – Aug 2022
- Organized a team of 4 researchers to establish a learning model based on limited data by utilizing semi-supervised learning, unsupervised learning, and active learning and improved model's accuracy from 77.4% to 81.2% on MIT-BIH by integrating feature and instance space augmentation.

PUBLICATION

Taylor Polynomial Enhancer using Genetic Programming for Symbolic Regression. 2023
Chi-Hsien Chang, Tu-Chin Chiang, Tzu-Hao Hsu, Ting-Shuo Chuang, Wen-Zhong Fang, and Tian-Li Yu.
In Proceedings of Genetic and Evolutionary Computation Conference Companion (GECCO '23 Companion).
- Proposed a novel method called Taylor polynomial enhancer using genetic programming that uses genetic programming as a Taylor polynomial enhancer to combine the advantages of genetic programming and Taylor polynomial for symbolic regression.

Ranging Binding Genetic Programming for Symbolic Regression. 2023
Wen-Zhong Fang, **Chi-Hsien Chang**, Jung-Chun Liu, and Tian-Li Yu.
In Proceedings of Genetic and Evolutionary Computation Conference Companion (GECCO '23 Companion).
- Proposed a model-based genetic programming algorithm for symbolic regression, called ranging-binding genetic programming that allows offspring to retain the superiority of their promising parents by ranging and binding mechanisms to utilize the syntax and semantics information of programs during evolution.

Honors and Awards

Excellent Teaching Assistant Award, Computer Programming, NTU 2022
- Earned 4.89/5.0 ratings by students and "She is the best TA I have ever had in my 30 years of teaching career." by Shyh-Kang Jeng, Professor Emeritus at NTU.

1st Place, The 2nd Yunus Prize on Social Innovation and Entrepreneurship Competition 2018
- Placed first out of 53 teams. Proposed **Taiwan Halal**, an App provides Muslim friendly tour services.