Vincent Yu

Wellington, New Zealand
+64 0211389072
vincentyu9603@gmail.com
linkedin.com/in/vincent-yu-07184118a
https://github.com/ViniY

EXPERIENCE

Associate Engineer – *Westpac,* NZ
MARCH 2022 –

- Maintenance and ongoing development of continuous build/ integration infrastructure

Research Assistant – *Victoria University of Wellington,* NZ
OCT 2021 – DEC 2021

Cloud Resource Allocation

- Conduct literature searches
- Collect Data from data centers
- Analyze the data, using python for data preprocessing and cleaning.
- Build a model to predict energy consumption in data centers
- Propose a new algorithm (e.g. Genetic Programming) to improve the performance regarding to energy reduction
- Conduct statistic significant test using Python (e.g. T test, Wilcoxon test)
- Write up papers

Research Assistant – *Victoria University of Wellington,* NZ
NOV 2018 – MARCH 2019

Workflow Scheduling in Cloud

- Build a model to predict the execution time of workflows and the cost of renting resources
- Analyze the benchmark data and generate suitable dataset for model training
- Propose new AI algorithms (E.g. Genetic Programming) to solve the problem in both static and dynamic cloud environment
- Implement a Cloud simulator to evaluate the performance of the proposed algorithm
- Conduct statistic significant test
- Write up papers and published to a conference (CEC 2019, CEC 2021)
- Present my work in international conferences (CEC 2021)

Tutor – *Victoria University of Wellington,* NZ
MAR 2017 – JULY 2021

- Assisting students with Labs/Assignments
- Marking and Commenting on Student Assignments
- Tutored courses: SWEN304(Database) ENGR123(Logic)
- COMP102(Java intro), COMP132 (Python)
- ECEN201(Digital Electronics)

EDUCATION

MS in Computer Science – *Victoria University of Wellington,* New Zealand
3 2020 – JULY 2021

- Major: Artificial Intelligence
- **Passed with Distinction**
- GPA : 8/9

BSc in Science – *Victoria University of Wellington,* New Zealand

SKILLS

Programming Language

Java
Python
JavaScript
R
Ruby
Matlab
Hadoop

Database

Postgres
MySQL

Source Control

Git

Reporting & Dashboard

R-Shiny
LaTeX
Markdown

LANGUAGES

English
Chinese

AWARDS

Summer Project Scholarship
VUW
11 2018

INTERESTS

- Machine Learning
- Data Mining
- Algorithm Design

JULY 2016 – JULY 2019
- Major: Electronic and Computer System
- Major: Computer Science
- GPA : 7/9

PROJECTS

Flexible Workflow Scheduling in Cloud Computing

11 2018 – *VUW*

- Developing a Machine Learning algorithm for workflow scheduling in cloud. The novelty of this work is that I considered a heterogeneous environment and the dependencies between tasks in the workflows. The developed algorithm shows promising results regarding to minimizing the total execution time of the workflow within a limited resources. The proposed work outperformed several well-known algorithms such as Particle Swarm Optimization and HEFT. This work is also published to **IEEE Congress on Evolutionary Computation**(CEC 2019).

Multi-Objective Workflow Scheduling in Cloud

11 2020 – *VUW*

- In this project, I developed a Machine Learning algorithm based algorithms for multi-objective optimization. The proposed work can minimize both the total execution time and the total cost simultaneously, and the proposed algorithms are compared with other well-known algorithms. This work is also published to **IEEE Congress on Evolutionary Computation**(CEC 2021).

Energy Consumption Optimization For Container based Cloud

10 2021 – *VUW*

- In modern cloud, container based model become more and more popular. And we are aiming to develop an algorithm which can be used for minimizing the energy consumption for the physical machines. In this project, multiple type of Physical Machines are considered. To make the simulation more realistic, the formula used for calculating the power consumption is based on a more realistic approximation instead of linear functions.

Gun Violence Dataset Exploration

6 2021 – *VUW*

- Gun violence is violence committed with the use of firearms, and it has became an undeniable problem in the U.S. In this work, I aims to collect appropriate data and preprocessing the data, and build a R-Shinny app to have a better visualization.
  In the dashboard demo, users can select different regions in US or select different time range, then the desired data will be automatically fetched from the dataset and refresh the tables and maps. Users can have a great visualisation of the distribution of these crimes.
  The source code of the R-shinny app can be found by this link :https://github.com/ViniY/DATA472/tree/main/Project/472Project

PUBLICATIONS

Achieving Flexible Scheduling of Heterogeneous Workflows in Cloud through a Genetic Programming Based Approach

JUNE 2019 – *IEEE*
doi:10.1109/CEC.2019.8789896

Achieving Multi-Objective Scheduling of Heterogeneous Workflows in Cloud through a Genetic Programming Based Approach

AUGUST 2021 – *IEEE*
doi:10.1109/CEC45853.2021.9504695