|  |  |  |
| --- | --- | --- |
| **Chien-Cheng Aaron Lai**  (786)817-7745 | aaronlai1027@gmail.com | linkedin.com/in/aaronchienchenglai | github.com/aaronlai1027 (willing to relocate) | | |
| **EDUCATION** | | |
| **Georgia Institute of Technology, GA**  Master of Computer Science  **Rice University, TX**  Master of Chemical and Biomolecular Engineering  **National Cheng Kung University, Taiwan**  Bachelor of Chemical Engineering | | **Expected Aug 2022**  GPA: 4.00/4.00  **Graduated Dec 2018**  GPA: 3.46/4.00  **Graduated Jun 2015** |
| **SKILLS** | | |
| **Programming & Tools**  **Data Analytics & Visualization** | Python, C/C++, Java, SQL, JSON, R, MATLAB, HTML5, Git, Docker  Python (pandas, NumPy, SciPy, seaborn, matplotlib), R (tidyverse, dplyr, ggplot2) | |
| **PROJECTS** | | |
| **Department of Computer Science, Georgia Institute of Technology**  **Multi-Threaded gRPC and Distributed File Systems (DFS)** | | **May 2021 - Jul 2021** |
| * Designed and implemented a distributed file system using C++ gRPC and Protocol Buffer. * Implemented multiple threads to manage gRPC asynchronous callbacks and requests. * Implemented read/write mutexes to handled asynchronous operations in both a server and clients. | | |
| **Shared Memory-Based Inter-Process Communication (IPC)** | | **May 2021 - Jul 2021** |
| * Implemented a cache server to communicate with a proxy server by POSIX share memory API. * Utilized semaphores for file transfer and message queues for server communication. | | |
| **Sales Report System Web Service** | | **Jan 2021 - May 2021** |
| * Designed the database schema by the EER-Relational Mapping. * Developed full-stack web application to visualize analytical reports using python Flask, MySQL, and bootstrap. | | |
| **Department of Computer Science, National Taiwan University** | |  |
| **PM2.5 Prediction and Income Prediction** | | **Sep 2020 - Nov 2020** |
| * Handcrafted linear regression using gradient descent to predict future PM2.5. * Handcrafted logistic regression using gradient descent to predict whether a person makes over 50K a year. | | |
| **Department of Computer Science, Rice University** | |  |
| **Computer Vision** | | **Jan 2018 - May 2018** |
| * Built SIFT and SURF detecting features algorithm to matching visual objects for image transformation and deformation. * Implemented Bag of Features algorithm to classify 292 images into 20 groups with 70% accuracy. | | |
| **Department of Chemical Engineering, National Cheng Kung University** | |  |
| **Undergraduate Research** | | **Jul 2014 - Jun 2015** |
| * Utilized molecular dynamics simulations in Linux to investigate the properties of biomimetic bilayers. * Implemented Gromacs to simulated bilayers using ion pair amphiphiles (IPAs). | | |
| **WORK EXPERIENCE** | | |
| **Formosa Plastics Corp., Testengeer, Inc.**  Chemical Engineer | | **Mar 2019 - Present** |
| * Visualized data and improved analytical model in Total Quality Management Systems database. * Developed data mining and pre-processing APIs for instrument testing data from XRD, FIIR, DSC, HPLC. | | |
| **Applied Optoelectronics, Inc.**  Manufacturing Process Summer Intern | | **Jun 2018 – Aug 2018** |
| * Developed functions to track testing data through Manufacturing Execution System on Microsoft SQL Server. * Analyzed testing results of failure devices and overdue work orders using Transact-SQL. | | |