Zhi Zhang
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EDUCATION

New York University (NYU) Sept.2019-Jun.2021
Master of Science in Computer Science, GPA: 3.481/4.0

University of Missouri-Columbia (MU) Sept.2015-Jun.2019
Bachelor of Science in Computer Science, GPA: 3.485/4.0 (2+2 Program in cooperation with TYUT)
Taken graduate courses from fall 2018 to summer 2019
Honors: Dean's Honor Roll in fall 2016; Bachelor of Science Cum Laude and Honors Scholar

Taiyuan University of Technology (TYUT) Sept.2013-Jun. 2018
Bachelor of Engineering in Software Engineering, GPA: 3.64/4.0
Honors: Second Grade Scholarship in fall 2013; Outstanding Volunteer in 2014

RESEARCH ASSISTANTSHIP

Plant Protein Phosphorylation Database Project, Digital Biology Lab Aug.2021-Feb.2022
Project Link: *http://www.p3db.org*

- Participated in building a web resource portal for providing and analyzing protein phosphorylation data in plants for 45 species from ~260 in-vivo proteomic studies using Angular and MySQL
- Built protein sequence conservation analysis tools for inferring the importance of residues in a protein

Computational Biology Team, Stowers Institute for Medical Research Jun.2019-Sept.2019

- Independently developed a RNA-sequence data analysis module for differential gene expression analysis with various bioinformatics tools to organize and retrieve 21 lab experiment datasets, process user experiment request forms, and display laboratory data records, and streamlined lab processes by removing the need for manual processing / data entry
- Designed RESTful APIs in Express framework, used async/await to access data from 800+ files, and communicated with remote R shiny server to assist researchers in DiffExp/GO/Hearmaps analysis using different Fit model and FC/FDR cutoff parameters
- Created a responsive single-page application following material design guidelines to improve user experience and connected with LIMS to show more sample details for freeing analysts from repeated simple tasks

WORK EXPERIENCE

Software Developer Engineer, **GritWorld** Dec.2020-Present

- Develop the web server and cloud-based service for next-generation computer graphics engine (GritGene)
- Develop high-concurrency and high-performance applications & micro-services using Golang

Application Developer, **ATFX Global** Feb.2022-Oct.2022

- Developed and published a cross-platform app named InvestingCude for tracking forex transaction signals using React Native, Express and Firebase Realtime Database
- Built Node server for asynchronous polling real-time forex rates and generating corresponding trading suggestions, implemented dynamic processing and visualized the results using Vue
- Developed system push notification service API, using Firebase Cloud Messaging for remote push notifications in IOS/Android to realize price alert service for users

Business Operations, **University of Missouri** Jun.2016-Jan.2018
Project Manager in Web Application Project in Drupal 8 (7 members)

- Design and built 8 websites for 12 university departments including Human Resource Services, Police Department, etc., achieving 2000+ daily visits shown through Google Analytics and reducing the workload of MU Operation's IT department by 30% within 1 year
- Implemented agile development methodologies to distribute tasks and monitor work progress, and meet project timelines and budget

Java Developer in Java Web Application Project

- Built, tested, and maintained 4 campus-wide web services, namely contract management, staff salary management, printing and mailing, and temporary staff management, using Vaadin7 Java Framework, following the MVP design pattern
- Collaborated with team to design database schema and used CallableStatement to execute the stored SQL procedure to efficiently insert user data and improve system execution speed, and authenticated users with lightweight directory access protocol (LDAP) to improve program security

ACADEMIC PROJECTS

COVID-19 Vaccination Sign-Up System May 2021-Jun.2021

- Used MySQL and PHP to build a web-based system that allows people to sign up for COVID-19 vaccinations, and developed a user management system for both vaccine Providers and Patients
- Adopted Ford-Fulkerson algorithm to maximize the number of patients of the highest priority group that get an appointment offer for Maximum Bipartite Matching

NYC Coronavirus Data Analysis Apr.2020-Jun.2020

Project Link: *https://arczz.github.io/Nyc_Cov19_project/*

- Tracked the current COVID-19 pandemic spread in NYC across the boroughs and zip codes using Spark, analyzed the relations between pandemic spread and its influential factors by Spark Machine Learning
- Collected data with Python BeautifulSoup and built an interactive map of the COVID-19 spread cases by NYC zip code with D3.js for data visualization

Artificial Intelligence Based Pac-Man Game Oct.2019-Dec.2019

- Employed A*, Hill Climber, Monte Carlo Tree Search (MCTS) and Genetic algorithms to train agent to find and eat food particles and avoid moving ghost (Pac-Man) in the maze

FatPlants Web Portal, Digital Biology Lab Feb.2019-May 2019

Project Link: *https://fatplants.net/homepage*

- Participated in building the FatPlants web portal with analysis and visualization tools for plant fat-related genes, proteins and metabolism
- Achieved interactive network visualization using Cytoscape.js to illustrate gene ontology enrichment analysis

Capstone Project: Amateur Radio Direction Finding (ARDF) Simulation Sept.2016-Jun.2017

- Collaborated with other teammates in building a radio sport Virtual Simulation for athletic training using Unity3D and implemented multiplayer feature using Socket
- Customized and designed the UI interface and Head-up Display (HUD) of the simulation, and implemented game save and load features using MySQL for users to record their progress

G2S (Genome to Structure) Web Service, Digital Biology Lab Dec.2016-Mar.2017

Project Link: *https://g2s.genomenexus.org/*

- Participated in building RESTful Web Service to analyze the 3D structure of proteins by Java Spring and Maven, and generated API client libraries using Swagger for scientific computing
- Achieved the function of aligning users input protein sequence against the PDB sequences in the up-to-date database employing BLAST algorithm

PAPER

Huimin Lu, **Zhi Zhang**, Teleoperating robots with virtual reality and multiple cameras, ISAIR2023 (The 8th International Symposium on Artificial Intelligence and Robotics), Accepted

SKILLS

Programming Languages: JavaScript, Java, Python, PHP

Back-end Frameworks: Node.js, Java EE, Spark, Vaddin, Drupal 8, Golang

Frond-end Frameworks: HTML/CSS, React, Redux, Vue, Bootstrap, Material-UI, jQuery

Others: Linux, Nginx, Apache, Git, Docker, MATLAB, Oracle, MySQL, MongoDB, Unity3D