

Application Developer Application Developer Experienced Full Stack Developer Dallas, TX

Experienced Full Stack Developer with a passion for crafting clean codes and quality applications. Proficient at designing and implementing functions to ensure the software meets the needs and expectations. Led software projects that had scaled tens of thousands of CPU cores and fostered novel discoveries in clinical research. Dedicated to lifelong learning and prepared to excel in solving complex problems. Authorized to work in the US for any employer

Work Experience

Application Developer University of Texas Southwestern Medical Center - Dallas, TX July 2018 to Present

- Develop interactive web applications and visualization tools (RESTful APIs using Python Flask, MongoDB, Front-end with React). Provide an intuitive and efficient interface for clinical physicians and scientists to explore qualitative and quantitative information of genes/variants.
- Develop and maintain test automation in REST API development. Create test plans, test cases, and test scripts (Pytest, Postman) to ensure code consistency and product reliability.
- Build scalable data analysis pipeline and databases for genetic diseases.

Software Developer National Supercomputer Center in Guangzhou - Guangzhou June 2016 to June 2018

- Developed and optimized a virtual drug screening software (C++). Develop MPI application for parallel computing on 100,000s CPU cores. Implement data structure to improve input processing speed 60X+. Utilize SQL database and local storage to mitigate IO burdens to the shared file system.
- Developed a software platform (Java) constituting of bioinformatics and statistical testing functions. Designed a module to retrieve contents from remote HTTP APIs and extract information from XML. Used profiling tools to identify and investigate performance bottleneck. Refactored a parsing module to reduce memory consumption for data reading/writing.
- Prototyped and implemented a Google Maps scrapping application (Python, JSON, crontab) to search for POIs and extract information. Designed algorithms to perform global search with minimal requests, automatically adjusting radius based on POI density. Implement auto-scheduling and task resume features.
- Deployed and maintained platforms for machine learning (Tensorflow, caffe, Pytorch) and data analysis (Rstudio, Jupyter) in HPC/cloud environments.
- Analyzed, troubleshot, and provided solutions for technical issues.

Software Engineer, Computational Biologist II University of Texas Southwestern Medical Center April 2014 to

January 2016 ? Developed a production pipeline framework (Perl, R, Jinja2) for HPC clusters. Implement 10s analysis workflows based on scientific literature and software documents. Used in tens of thousands of research lab/clinical samples. ? Prototyped and maintained a Java application that communicated with MySQL database in the backend. Created tables and updated meta information of daily lab samples. Automated data summarization and generated user-friendly HTML/PDF reports for lab staffs. ? Developed and/or modified software to support scientific research projects. ? Developed & executed high throughput sequencing analysis pipeline.

Education Full Stack Web Dev Certification Southern Methodist University 2018 to 2019 Master's in Bioinformatics Sun Yat-sen University 2009 Bachelor's Sun Yat-sen University 2006

Skills DATABASE (3 years), HIGH PERFORMANCE COMPUTING (6 years), HPC (3 years), JAVA (3 years), C++ (3 years), Python (5 years), MySQL (3 years), MongoDB (2 years), HTML (5 years), R (6 years), C (3 years), Web Development (3 years), Linux (6 years), bioinformatics (6 years), Git (5 years), Cloud Computing, Javascript (3 years), docker (2 years), container (2 years), HTML 5 (5 years), jQuery, Node.js (2 years), React (2 years), AWS (1 year) Links <https://github.com/hliang> <https://hliang.github.io/portfolio.html> <https://www.linkedin.com/in/hanquan-liang-87448159/>

Additional Information SKILLS ? Excellent programming skills in object-oriented languages and scripting languages: Python, Javascript, C/C++, Java, Python, Perl, R, Shell, etc. ? Familiar with Unix/Linux and HPC cluster system, SGE, SLURM, Spark, Docker. ? Experience with web development and database: HTML, CSS, jQuery, React, MySQL, MongoDB. ? Strong troubleshooting and problem solving skills

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