Zicheng Huang

huang.zic@husky.neu.edu
(702)-781-6564
Seattle, WA

Education

Northeastern University, College of Computer and Information School Seattle, WA
Master of Computer Science *Sept. 2016 - May 2018*
Selected Course: Program Design Paradigm, Digital Image Processing, Algorithms

Peking University, Department of Biomedical Engineering Beijing, China
Bachelor of Engineering, GPA: 3.2/4.0 *Rank:* 4/13 *Sept. 2011 - July 2015*

Research Experience

Peking University, Laser Biomedical Research Center Beijing, China
Research Assistant *Sept. 2014 - June 2015*
- Redesigned algorithm for real-time melanoma detection, resulting in a 65 percent increase in performance by using conjugate gradient method.
- Designed route planning algorithm for robotic arm in laser treatment, based on Gaussian beam model, leading to a 14 percent reduction in laser radiation.
- Developed program to exchange data between camera module and robot control system.

Georgia Institute of Technology, Department of Biomedical Engineering Atlanta, GA
Summer Research Intern *July 2014 - Aug 2014*
– Implemented algorithm to generate high-fidelity finite element model of coronary artery stent from images, leading to a 300 percent growth in the number of finite elements.
– Created Abaqus script to conduct finite element analysis on coronary artery stents.

Projects

CrossDB Individual Project
Python, Cython, C *Sept.7 - Present*
– Designed an on-disk key-value store from scratch, supporting arbitrary byte arrays as both keys and values. Implemented singular get, put, delete operations and bi-directional iterators.
– Built storage engine based on Sorted String Table(SSTable) and Skip List. Implemented append-only B+ Tree as an alternative engine.
– Implemented Bloom filter to accelerate read operations.
– Extended with Cython and C codes to enhance performance.

Antita (Algorithmic Trading) Individual Project
Python *March 2015 - July 2015*
– Designed an algorithmic trading library based on Pandas, supporting different input formats of historical data. (e.g. CSV, JSON, XML)
– Supported backtesting of trading strategy. Implemented common performance metrics of trading strategy (e.g. Alpha, Beta and Sharpe Ratio).
– Developed application to visualize prices and backtest performance statistics using Flask and D3.js .

Skills

Language Python, Java, C/C++, Scheme, JavaScript
Tools, Library MATLAB/Simulink, Git, Numpy, Pandas, Flask, D3.js