Chengbo GU

1 Oak Grove Ave, Melrose, MA 02176| 781- 666 -1229 | g[u.chengbo@husky.neu.edu](mailto:chengbo@husky.neu.edu)

**EDUCATION**

**Northeastern University Boston, MA**

Master of Science in ***Bioinformatics*** (GPA: 4.0/4.0) ***Jan.2016 - Exp Dec.2017***

**Shanghai Jiao Tong University Shanghai, China**

Bachelor of Engineering in ***Computer Science and Technology*** (GPA: 3.5/4.0) ***Sep.2011 - Jul.2015***

Bachelor of Science in ***Pharmacy*** (GPA: 3.5/4.0)

**SKILLS**

**Programming language:** Python, Perl, R, C/C++, Java, JavaScript, HTML, CSS, SQL, Pascal, DrRacket

**Tools:** AngularJS, Bootstrap, MongoDB, Mongoose, Express, Node.js, JQuery, Heroku, Github

**PROFESSIONAL EXPERIENCE**

**Websites Management System *Jan.2017 – Present***

Implemented a dynamic web app by MEAN stack using the four underpinning technologies MongoDB, Express, Angular JS and Node.js.

Programmed for both developers and end users with different level of authority to create and use online, mobile friendly websites.

**Functional Programming Course Projects *Feb.2016 – Apr.2016***

Implemented **shortest path** on graph and **FSM** with GUI in **Lisp-Scheme** language DrRacket.

Programmed in strict style and wrote human-readable comments as well as high-quality test suites which covered all codes.

**Simulator of Goofball Detection System *Jan.2016 – Apr.2016***

Designed and implemented object-oriented program using **MVC** pattern.

Designed in **time-driven simulation model**; collected data about current state, handled events, increased simulation time.

Programmed for GUI, draggable items, controllable launcher and interaction among them.

Wrote **conditional tests** for normal as well as edge cases scenario to test behaviors of objects.

**My Shell Interpreter *Jan.2014 – Jun.2014***

Designed and implemented an interactive command line interpreter with C.

Implementation included **I/O redirection** and built-in commands.

**Course Registration and Management System *Oct.2013 – Dec.2013***

Implemented a system in **OOP** pattern to efficiently manage information of courses, students and teachers.

Designed the frontend with **MFC** and built it in **Office-style UI**.

Maintained a simple database as backend to provide **CRUD operations** for users as well as permission control for administrators.

Maintained software development life cycle in **iterative development model**.

**Magic Tower Python Game *Oct.2011 – Dec.2011***

Designed and implemented a console game with Python, including GUI design, story model setting and business logic.

Wrote **unit tests** and **bottom-up integration tests** to make application bug free.

**RESEARCH EXPERIENCE**

**Research Assistant, Lab of Bioinformatics, Shanghai Jiao Tong University *Apr.2013 – Dec.2015***

**Synergistic Allosteric Mechanism of Fructose-1.6-bisphosphate and Serine**

**for Pyruvate Kinase M2 via Dynamic Fluctuation Network Analysis *Jan.2015 – Dec.2015***

Found a possible relationship between FBP and serine for allosteric regulation of PKM2.

Mastered knowledge of statistics, parallel programming, distributed computing and server maintenance.

Published a research paper in J. Chem. Inf. Model., 2016, 56 (6), pp 1184–1192, DOI: 10.1021/acs.jcim.6b00115.

**Allosteric Switch Mechanism of K-RAS Protein Inhibitors *Jan.2014 – Dec.2015***

Explored the allosteric regulation mechanism of K-RAS inhibitors through molecular dynamics simulation, interaction analysis, dynamic networks analysis and specific locus mutation with the aid of computing and high-performance cluster simulation.

Adopted and modified the lab’s previous Perl scripts using parallel programming and distributed computing for efficient data analysis.

**TEACHING EXPERIENCE**

**Graduate Teaching Assistant in Bioinformatics Programming Class, NEU BINF6200 *Sep.2016 – Present***

Held office hours to help students solve confusion towards course materials and assignments.

Drafted and revised rubrics, graded assignments.

Assisted professor with lectures of assignments summary.