Neil Sengupta
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Education

University of California, San Diego (2014 - 2018)
B.S Computer Science

Experience

San Diego Supercomputer Center (Summer 2015)
Software Engineering Intern
o Researched algorithms for comparison and high performance clustering of 3D biomolecular structures.
o Researched the prospect of using Apache Parquet for compressed columnar data representation.
o Utilized BioJava library to improve compression ratio for raw data.
o Benchmarked approaches for hosting compressed structures.

UCSD CSE Department (September 2015 - Present)
Undergraduate CSE Tutor
o Undergraduate tutor for Introduction to Computer Science: Java.
o Lead sections to mentor students on programming skills and programming assignments.
o Help students in the Lab to understand concepts and debug their programming assignments.
o Grade tests, quizzes and programming assignments for efficient feedback.

Selected Projects

Minesweeper (Fall 2014)
o Created an improved version of Minesweeper using *Java* and the *Swing* Library.
o Improved interface to allow the user to choose board size and mine density.
o Currently working on using flood-fill algorithm to uncover mines efficiently.

Hackspace (Spring 2015)
o Built an efficient Hackathon workshop iOS application using the Ionic Framework.
o Application allows attendees to browse through list of other hackers to collaborate on projects.

Chat Room (Spring 2015)
o Real time chat server application using *Node.js* and *socket.io* framework.
o Implemented a clean user-interface and allowed user to enter nickname.

Data Structures Case Study (Winter 2015)
o Performed a case study analysis of approaches to Object-Oriented Design in *C, C++,* and *Java.*
o Reported which approaches are best suited to solve programming problems.
o Implemented a stack-based calculator that evolved to utilize binary trees, circular linked lists and hash tables. The efficiency of each data structure was analyzed after each iteration.

Awards

o **PwC Explore Program** (March 2015)
One day training sessions for talented freshmen teaching leadership, teamwork and strategic team thinking.

o **National Talent Search Scholar** (2014)
Received a gold medal in Science and Math for scoring above 95th percentile on the written examination.

Technical Skills

Programming Languages - Java, C, C++, Python
Web Development - Javascript, jQuery, CSS, HTML5
Software - Vim, Git, Eclipse