Nicholas A. Alvarez

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Jones College 23 Sunset Boulevard Houston, TX 77005

EDUCATION & SKILLS

Rice University, Houston, Texas

Bachelor of Science in Computer Science expected May 2019
Bachelor of Arts in Linguistics expected May 2019
GPA: 3.512

Relevant Coursework: Intro To Database Systems, Fundamentals of Parallel Programming, Advanced Object-Oriented Programming and Design, Operating Systems and Concurrent Programming, Introduction to Computer Security, Intro to Computer Systems, Introduction to Program Design, Algorithmic Thinking, Honors Linear Algebra

Software & Programming Proficiencies: Python, Java, Junit, SQL, C, JSON, Spark API, Linux/Unix, Git, Subversion, MongoDB

ACTIVITIES & PROJECTS

Organizations

2015 – Ongoing
Rice Robotics
-Constructed robots for competition in the Vex-U competition
-Develop, with a team, the best design solution for specific tasks and challenges in the process of building robots
-Implement design solutions for local companies and organizations.

Projects

2016

Text-based Adventure Game

-Designed and implemented a prototype rudimentary text-based adventure game in Java, where the player can look at and interact with their world, which is read in through a JSON document

Genetic Algorithm for Picture Functions
-Implemented, using functional programming methods in Java, a genetic algorithm based on a 1991 Karl Sims paper for breeding various multi-layered composing functions of various order to generate subsequent generations of functions, and to display these functions as pictures of any size

HackRice
- Rice University CS Club-sponsored hackathon
- Envisioned and created a web app with a group of unacquainted students in, making use of python, JavaScript, HTML and CSS
- Gained experience with python web backend frameworks, Django and Flask

2017

Group Chat Application and API
- Designed, in a team, an API for peer to peer group messaging applications using a message-passing architecture allowing two or more separately-developed chat applications to receive and process messages of arbitrary types from each other using an extended visitor model
- Implemented and debugged the API in Java
- Determined and examined use cases and catered the API for orthogonality and maximal usability
- Provided support to seventy users of the API each creating their own chat application
- Developed a Java chat application using the API able to send images and receive and process messages of arbitrary types, sending and displaying them using a Java Swing user interface