

# Nicholas Alvarez

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## Education

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### Rice University

Houston, TX, USA

BSCS IN COMPUTER SCIENCE; BA IN LINGUISTICS

August 2015-May 2019

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

GPA: 3.57

## Skills

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**Programming:** Python, Java, Junit, C, SQL, Javascript, Angular, Linux/Unix, Git, Subversion, MongoDB, LaTeX

**Languages:** English, Spanish, Japanese

## Experience

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### General Motors

SOFTWARE DEVELOPER

2019 - Present

- Work closely with internal business users in remote offices, using an agile development (scrum) strategy.
- Oversee team's monthly development migration process, resulting in an improved efficiency of four to six hours.
- Write Python, Javascript, and SQL scripts to gather and transform data between relational databases, Essbase OLAP, business intelligence, and other applications.
- Create and enhance reports for auditing details of the company's implementations of various commercial off the shelf software products.

### Rice University

INTRO TO COMPUTER SYSTEMS TEACHING ASSISTANT

Spring 2018, Spring 2019

- Explained to students fundamental principals of computer systems such as virtual memory and proper usage of C.
- Graded student homework assignments.

## Projects

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### Dateline Rice 2.0

DATA COLLECTION TEAM; ARCHITECTURE/INFRASTRUCTURE COMMITTEE

2018

- Negotiated, designed, implemented, and debugged a REST API for management of a web-scraping service for automatically gathering all Rice University related news over a given time interval.
- Coordinated with three other teams to architect a distributed and extensible service.
- Responded quickly and effectively to bugs and critical errors discovered by both the end user and other teams during development.
- Built a fully fledged HTTP server and daemon process in Python to handle concurrent requests made to and actions performed by the service.
- Engaged in an agile-style development workflow to automate manual tasks for a client within a four month time frame.

### Group Chat Application and API

2017

- Designed 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.
- Provided support to seventy users of the API each creating their own chat application.
- Determined and examined use cases and catered the API for orthogonality and maximal usability.
- Implemented and debugged the API in Java.
- 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.