Bryant Jimenez

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EDUCATION

Stanford University **Stanford, CA**

GPA: 3.26/4.00

B.S Candidate in Computer Science *Expected 2024*

Relevant Coursework:

- Programming Methodologies and Abstractions, Computer Science
- Computer and Network Security
- Artificial Intelligence
- Design and Analysis of Algorithms
- Computer Organization and Systems, Principles of Computer Systems, Compilers
- Web Applications
- Databases and Data Systems

ENGINEERING EXPERIENCE

Projects

- **Photo Sharing Web App (JavaScript, HTML, CSS, ReactJS)**
  - PhotoSharing website where users can log in, register, upload photos, and view other user's details and photos. Can like, comment, and @mention other users on any user's pictures. Interactions through the browser generate API calls to the backend to retrieve and populate data, which are then rendered on the front end through REST API. (class project)
- **Stanford Bash Shell (C/C++)**
  - Extended simple shell to support process control, job lists, signals, pipelines, and I/O redirection.
  - Utilizes multithreading techniques to support commands like **quit, bg, fg, exit, jobs, halt, slay, cont.**
- **Implicit Heap Allocator (C)**
  - Implicit free list allocator with own versions of malloc, realloc, free, and error checking through heap traversal. Free blocks are recycled and reused for subsequent malloc requests. Debugged using GDB.
- **Basic Compiler for COOL Language (FLEX/Bison/C/C++)**
  - Implemented lexical analyzer using flex by writing rules that match on user-defined regular expressions and perform a specified action for each matched pattern.
  - Wrote parser for COOL language utilizing the bison parser generator and a tree manipulation package to output an abstract syntax tree (AST).
  - Using the AST, from the parser, implemented a semantic analyzer for COOL that manages naming and scoping, type checking, and full error message generation for erroneous programs. Annotates AST with types for code generation.
  - Wrote code generator that emits decides the object layout for each class, then recursively generates stack machine code for each expression. Produces MIPS assembly code for any proper COOL program.

SKILLS

- **Programming Languages:** Python, C/C++, Unix, SQL (BigQuery), JavaScript/CSS/HTML/React, Go, MATLAB
- **Languages:** Native in English and Spanish, Japanese (studying)

ACTIVITIES

Los Hermanos de Stanford **Stanford, CA**

Member *2/20 - Present*

- Helped fundraise $1500 scholarship for Chicanx/Latinx high school students to pursue postsecondary education.
- Developed community knowledge and skills for Chicanx/Latinx empowerment in the workplace, promoted cultural awareness and participation in the Chicanx/Latinx community at Stanford.

Interests: Volunteer Work at the Denver Animal Shelter, learning Japanese