

# RONALD CHHUA

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## EDUCATION

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**Computer Science (B.S.)** Junior - University of California, Santa Cruz.

Sept 2018 - June 2022

## EXPERIENCE

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### STEM Tutor/TA

June - Aug 2016, June - Aug 2017

- Arranged insightful physics and engineering-based projects, leading/creating activities (2017)
- Taught Mathematics and upskilled student comprehension, resulting in higher grade averages (2016)
- Tested students, benchmarked their progress, organized school-wide events, and improved their scores

### Harvest Sacramento Data Analyst

October 2017 - April 2018

- Tabulated members' site dimensions, harvesting data, and community events held at different locations
- Extrapolated seasonal projections from various community events and seasonal product availability
- Ensure customer availability before big events and curated necessary items for leaders on harvesting

## SKILLS

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**Languages:** Java, C, C++, Python, JavaScript, HTML/CSS

**Software:** Windows, Linux, Git, VS Code, Eclipse

**Frameworks/Libraries:** Django/DRF, SQLite, Vuejs, Bulma CSS, Deeplearning4J, Node.js, MongoDB

## PROJECTS

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### Tesseract Image Text Translator (OCR)

August 2020

- Developed in Java using a Maven build, Tess4J, and Google Cloud Translation API
- Makes API calls to Tess4J for OCR and then uses Google Cloud Translation
- Prompts a transparent JWindow overlayed over the images with text to be translated
- Improved text quality with OpenCV, resulting in a more accurate and detailed OCR.

### Genetic Pathfinding Simulator

July 2020

- Java program that imposes natural selection on finding paths between a starting and ending location
- Uses angles and distances as movement vectors and multithreading to depict particles in GUI
- Optimized the pathfinding using distanced-based fitness resulting in fewer computed generations
- Implemented obstacles to generate complex paths and form intricate pathfinding

### Image Scraper

December 2019

- A Node.js application using Puppeteer for HTML rendering and DOM manipulation.
- Scrapes images from public sharing websites using specified CSS Selectors
- Utilizes Node's File system to save images and organizes them for Deep Learning data sets.

### Post-It Web Application

May 2020

- A SPA built with Vuejs for UI interaction, Django/DRF for API, BulmaCSS, and SQLite
- CRUD application where users can manage and store their notes/tasks.
- Uses Axios to handle requests to the API and updates the page dynamically.

### Six Degrees of Separation

March 2020

- 500,000+ actors and 100,000+ movies from IMDB are parsed into a data file
- C and C++ program that finds shortest path between two actors using an undirected graph and BFS algorithm
- Can problem-solve dozens of path-between-actors queries in seconds