

# Jonathan Castello

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## EDUCATION

### CSU: NORTHRIDGE

BS IN COMPUTER SCIENCE &  
PURE MATHEMATICS

May 2016 | Northridge, CA

Cumulative GPA: 3.96

Dean's list (All Semesters)

Outstanding Graduating Senior

### UC: DAVIS

PH.D. IN COMPUTER SCIENCE

Advisor: Dr. Aditya Thakur

Projected for 2022 | Davis, CA

## SOCIAL

GitHub: [Twisol](#)

Twitter: [@Twisol](#)

## COURSEWORK

### UNDERGRADUATE

Operating Systems

Computer Graphics

Embedded Systems

Abstract Algebra I & II

### GRADUATE

Concurrent Programming

Programming Languages

Program Analysis &

Automated Reasoning

## SKILLS

### PROGRAMMING

Proficient with:

Python • Ruby • HTML • CSS •

JavaScript • Lua • C/C++ • Java

Familiar with:

Haskell • Rust

## WORK EXPERIENCE

### JET PROPULSION LABORATORY | SOFTWARE DEVELOPMENT INTERN

June 2012 - August 2016 | Pasadena, CA

- Developed and maintained ground tools for Cassini sequence planning
- Designed and implemented software for the Cassini non-science data archive
- Mentored and coordinated a team of interns during Summer 2014
- Languages used include Python, Ruby, Haskell, C, and Java

### CASTELLO CITIES INTERNET NETWORK, INC. | CHIEF INFORMATION OFFICER

2006 - Present | Moorpark, CA

- Manage and maintain a fleet of Linux web servers
- Process external Excel records for import into company databases
- Handle exigent situations on-call

## ACADEMIC EXPERIENCE

### CSUNSAT1 - CUBESAT PROJECT | SOFTWARE DEVELOPER

May 2014 - September 2017 | Northridge, CA

Participated in CSUN's academic CubeSat project, "CSUNSAT1"

- Developed and contributed to the design of CSUNSAT1
- Developed UART and SPI drivers for the dsPIC33F microchip
- Designed a streaming mode for satellite commands with large amounts of data

### TUFTS UNIVERSITY | UNDERGRADUATE RESEARCHER

Summer 2015 | Boston, MA

- Worked with **Dr. Csaba Tóth** on the "Sliding Cameras" problem in computational geometry.
- Enabled the group to generate instances of the problem and explore the problem space by developing a visualization tool in JavaScript:  
<http://jonathan.com/math/artgalleries/>

## OPEN-SOURCE PROJECTS

### ANACHRONISM | TELNET PROTOCOL IMPLEMENTATION

<https://github.com/Twisol/anachronism>

An RFC-{854, 855}-compliant implementation of the Telnet protocol. A pluggable telnet API allows users to include and enable only the options they require. An event-based streaming model allows for dynamic reinterpretation of the data stream (e.g. inserting a (de)compression layer on-demand).

### LUPIN | LUA LANGUAGE IMPLEMENTATION

<https://github.com/Twisol/lupin>

An experimental implementation of Lua on the Rubinius virtual machine.

### WEBGL-FRACTALS | WebGL FRACTAL VIEWER

<http://jonathan.com/math/fractals>

<https://github.com/Twisol/webgl-fractals>

A Newton fractal viewer written in JavaScript and GLSL. Supports configuration of many fractal parameters, including precise positioning of polynomial roots with complex exponents.

## PUBLICATIONS

Castello, Jonathan. "Character Development Through Trait Psychology." *Wings: Distinguished Student Essays*. 19th ed. Hayden Mcneil, 2013. 62-65. Print.

## AWARDS

- 2012 Recipient of the *Pradip and Rekha Choksi Endowed Scholarship*
- 2016 Named the *Outstanding Graduating Senior* of the College of Engineering and Computer Science at CSUN
- 2016 Nominated for the *Wolfson Scholar Award* by two separate Colleges within CSUN