

Rebecca Turner

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I am a computer science BS enrolled at Brandeis University passionate about software engineering and art, including graphic design and motion graphics. I'm looking for an internship in software development where I can contribute meaningfully and learn real-world development practices.

Professional experience

Paisano's Pizza

Cashier

June–August 2017

- Answered phones, took customer orders, cleaned and organized the storefront.

Iridium

Engineering intern

May–August 2018

- Authored tools to detect anomalies within satellite configurations via searching for mismatches between satellites and unexpected changes within a satellite's configuration. Resolved satellite configurations with a recursive import system. Specialized HTML and plain-text reports for interfacing with already-in-place data manipulation tools. Worked with engineers to schedule the tool to run daily and deploy it system-wide. Migrated several components into libraries to encourage code reuse. Python, Perl, HTML, shell script.
- Created a post-processing command-line tool to colorize plain-text error reports and worked with operators to create coloring schemes that allow at-a-glance analysis of data. Perl.
- Created a tool to analyze memory dumps to simplify correcting memory errors. Python.
- Created an interactive MongoDB query builder. Provided rich input for fields of different data types and specialized existing input for domain-specific needs (e.g. durations are often an even multiple of orbits rather than a more common unit like hours). C++, Qt.
- Modified an internal library for requesting satellite-metadata to make the API more intuitive and increase debuggability. Python.
- Wrote and submitted a change request to upgrade a Python installation on a development LAN.

Education

Brandeis University (Waltham, MA)

Computer science BS

August 2017–May 2021

GPA: 3.526 / 4.00

Courses include calculus, linear algebra, physics (mechanics / electricity and magnetism), advanced programming techniques, and data structures. Operating systems planned for Fall 2018.

The New School of Northern Virginia (Fairfax, VA)

Honors Diploma in computer science

June 2017

GPA: 3.89 / 4.00

Software

Extensive experience: Java, Python, C, Javascript, PowerShell, \LaTeX , PHP, HTML 5, CSS 3, Perl, Bash / shell scripting, Go, and the Microsoft Office suite. Moderate experience: Ruby, Rust, Wolfram Mathematica, C++, C#, F#, and the .NET API.

I have developed a number of independent software projects.

- *I C the Light*, a distance-estimating ray marcher designed to render images of quaternion Julia sets. Written in C. Github: [9999years/i-c-the-light](https://github.com/9999years/i-c-the-light). Paper: [becca.000/i-c-the-light.pdf](https://arxiv.org/pdf/1508.00001v1.pdf)
- *juliaplotter*, a script to render cells or grids of arbitrary Julia sets, to overcome difficulties other renderers have in visualizing the many possible values of the constant c in the Julia set for a given rational function. Python. Github: [9999years/juliaplotter](https://github.com/9999years/juliaplotter)
- *#wrap*, an extension for Google Chrome to wrap Tumblr's hashtag interface to one line, addressing a widely-held annoyance with Tumblr's user interface. Three years after its publication, *#wrap* had retained 30,315 active users. CSS. Github: [9999years/hashwrap](https://github.com/9999years/hashwrap)
- *becca.000/mandelbrot*, an interactive web app to explore the Mandelbrot set and visualize incremental values of the underlying sequence at arbitrary points. HTML 5 canvas, Javascript.
- Twitter bots such as *@gardensbot*, which posts grids of plant and animal emoji in virtual “gardens” every other hour, and *@goodwordsbot*, which generates fake but plausible English words from Latin and Greek roots. PHP. Github: [9999years/twitter-bots](https://github.com/9999years/twitter-bots)
- *The Daily Report*, a highly-customizable framework for generating daily agendas for use with receipt printers. Capable of reading and processing Google calendars, outputting weather forecasts, count-downs, to-dos, daily news, and other useful information. Currently running on a Raspberry Pi interfacing with a Star thermal receipt printer. Python. Github: [9999years/daily-report](https://github.com/9999years/daily-report)
- *PSVarDump*, a PowerShell module for debugging PowerShell scripts by inspecting variable contents. PowerShell script. Github: [9999years/PSVarDump](https://github.com/9999years/PSVarDump)
- *becca.000/fox*, A program to simulate and visualize the interactions of plant and animal populations in a virtual ecosystem. HTML 5 canvas, Javascript.
- *becca.000/integral*, an interactive web app to visualize integral approximations. HTML 5 canvas, Javascript.

Graphic design / motion graphics

I have experience with Adobe CC suite software (namely Photoshop, Illustrator, and AfterEffects), and Cinema 4D across a variety of fields — I have created vector illustrations, manipulated photos and videos, and created motion graphics from scratch.

A WIRED article (11 *Beautiful, Psychedelic GIFs Created by a Math Whiz*) linked to a directory of GIF artists I curate, gifartists.tumblr.com.

Motion graphics reel available at becca.000/reel