

# Dylan Culfogienis

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## Engineering Student

*Biology, Nanotech and CS student interested in AI, next-generation manufacturing and bringing awesome ideas to life.*

## Professional Experience

Virginia iGEM 2018, Charlottesville, VA

### **Lead Web Developer, Lead Graphic Designer and Researcher**

*June 2018 - October 2018*

Worked with a team of 12 students to create a synthetic genetic system that enhances biologic and biomanufacturing yields via synthetic quorum response. Designed and built team's website, developed team brand and illustrated most graphics for the team. Work included interactive visualizations of genetic devices and data produced by our research. Developed Node.js and Python devops tools for team (winning a Best Software prize nomination) and managed software and code for the project through Git and GitHub. Assisted in many aspects of project, including labwork, mathematical modeling (via UVA's Rivanna computing cluster) and finances (raising over \$60,000 in funding).

## Education & Credentials

**University of Virginia**, State University, Charlottesville Virginia

*anticipated May 2020*

Bachelor of Science in Engineering Science (Materials Science & Computer Science Concentration)

Bachelor of Arts in Biology; GPA 3.68

### Notable Accomplishments

- Honors Scholar *2016 - Present*
- Dean's List *2016 - 2018*

### Relevant Coursework

- Algorithms, Program and Data Representation, Computer Architecture, Nanoelectronics
- Cell Biology, Molecular Biology & Genetics, Biochemistry, Synthetic Biology, Developmental Neurobiology
- Atomistic Simulations, Thermodynamics, Crystal Structures

### Side Projects

#### **Videogame Development**

*2016 - Present*

Various videogame projects. Highlights include a prototype for a parkour hiking game; an implementation of dual-contouring, a meshing algorithm used for procedural generation of infinite terrain; and currently, a platformer based on Norse mythology. Languages used include Pythonic derivatives, C#, C++ and GPU programming. Other skills learned include 3d modeling, animation, graphic design, game design and project management.

#### **Homebuilding**

*July 2017 - Present*

Design and construction of my current residence, a small, partially off-grid tiny house. Intended as a living engineering experience in sustainability. Learned various construction and engineering skills, including architectural CAD, plumbing, wiring, building envelope design and welding.

#### **Thin Film Conductor Research**

*2019 - Present*

Basic research under Xu Lab at UVA; molecular dynamics simulations seeking to improve thin-film flexible electronics manufacturing by determining fracture mechanisms in aqueous conditions for conductor thin films.

#### **App Development**

*2019 - Present*

In the planning phases for a cross-platform app called Lyrebird that allows a user to compose and synthesize music by whistling, humming, and interacting with various sensors on their device.

### Relevant Experience

- Programming Skills: Project experience with C++, C#, JavaScript, Python, Godot and GitHub. Working knowledge of Jupyter, MATLAB, Mathematica and shell scripting. Experience with Java, Haskell, Lua, VimScript, and LISPs. Linux & command line enthusiast.