

# Marcus William Fedarko

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<b>Education</b>	PH.D. STUDENT, Computer Science <b>University of California, San Diego</b> GPA: 3.35/4.0	9/2018–Present San Diego, CA
	B.S. WITH HIGH HONORS, Computer Science <b>University of Maryland</b> GPA: 3.81/4.0	9/2014–5/2018 College Park, MD
<b>Refereed Publications</b>	<ol style="list-style-type: none"><li>1. Meisel, J. S., Nasko, D. J., . . . , <b>Fedarko, M.</b>, . . . , and Treangen, T. J. (36 authors, 2018). “Current progress and future opportunities in applications of bioinformatics for biodefense and pathogen detection: Report from the Winter Mid-Atlantic Microbiome Meet-up, College Park, MD January 10<sup>th</sup>, 2018.” <i>Microbiome</i>, 6(1), 197.</li><li>2. Ghurye, J., Treangen, T., <b>Fedarko, M.</b>, Hervey, W. J., and Pop, M. (2019). “MetaCarvel: linking assembly graph motifs to biological variants.” <i>Genome Biology</i>, 20(1), 174.</li><li>3. Sanders, J. G., Nurk, S., . . . , <b>Fedarko, M.</b>, . . . , and Knight, R. (31 authors, 2019). “Optimizing sequencing protocols for leaderboard metagenomics by combining long and short reads.” <i>Genome Biology</i>, 20(1), 226.</li></ol>	
<b>Conference Presentations</b>	<ol style="list-style-type: none"><li>1. <b>Fedarko, M.</b>, Ghurye, J., Treangen, T., and Pop, M. (2017). “MetagenomeScope: Web-Based Hierarchical Visualization of Metagenome Assembly Graphs.” Poster presented at the <i>25th International Symposium on Graph Drawing and Network Visualization</i>, Boston, MA, USA.</li></ol>	
<b>Research Experience</b>	GRADUATE STUDENT <b>University of California, San Diego</b> <ul style="list-style-type: none"><li>• <b>Advisor:</b> Rob Knight</li><li>• Designed Qurro, an interactive visualization tool for feature “rankings” and log-ratios: see <a href="https://biocore.github.io/qurro/">https://biocore.github.io/qurro/</a>.</li><li>• Assisting with software and analysis projects throughout the Knight Lab.</li></ul>	9/2018–Present San Diego, CA
	RESEARCH INTERN <b>University of Maryland</b> <ul style="list-style-type: none"><li>• <b>Advisors:</b> Mihai Pop, Todd Treangen</li><li>• Designed MetagenomeScope, an interactive visualization tool for metagenome assembly graphs: see <a href="https://marbl.github.io/MetagenomeScope/">https://marbl.github.io/MetagenomeScope/</a>.</li></ul>	6/2016–8/2018 College Park, MD
<b>Teaching Experience</b>	COURSE ASSISTANT <b>Marine Biological Laboratory</b> <ul style="list-style-type: none"><li>• <b>Courses:</b> Workshop on Molecular Evolution (MOLE); Strategies and Techniques for Analyzing Microbial Population Structures (STAMPS)</li><li>• Assisted with basic logistics for both courses (i.e. mostly making coffee).</li><li>• Helped students during some of the “laboratory” sections of the STAMPS course, including tutorials on Unix and Git.</li></ul>	7/2018–8/2018 Woods Hole, MA

- Prepared and gave a roughly hour-long presentation (including a tutorial) on MetagenomeScope during the STAMPS course as part of Todd Treangen’s session on “Graph-based variant detection and strain-level analyses.”

UNDERGRADUATE TEACHING ASSISTANT 8/2016–12/2016

**University of Maryland Dept. of Computer Science** College Park, MD

- **Course:** CMSC 330 (“Organization of Programming Languages”)
- Assisted students with coursework (Ruby, OCaml, Prolog; grammars, regular languages, semantics, security) in office hours and on an online discussion board.
- Designed and graded quiz and exam questions.

## Professional Experience

STUDENT STAFF WRITER 1/2015–9/2017

**University of Maryland Dept. of Computer Science** College Park, MD

- Composed and edited articles for the department’s website and other media.
- Assisted with the logistics of various department outreach functions.

STUDENT INTERN 5/2013–8/2014

**Axiometric** Columbia, MD

- Designed a graphical interface to an RF propagation model to assist clients in planning deployments of mesh networks of utility meters.
- Aided in the creation and maintenance of other utility meter deployment management software.

INTERN SOFTWARE ENGINEER 7/2012–8/2012

**Battlefield Telecommunications Systems** Columbia, MD

- Designed a web interface to monitor the connection strength of radio devices.
- Helped integrate this functionality into the company’s existing network management user interface.

## Honors and Awards

1. University of Maryland CMNS Dean’s List Fall 2014–Spr. 2018
2. University of Maryland Honors College University Honors Citation 2017
3. Rita Colwell Travel Fellowship 2017
4. Travel Award, U. of Michigan “Explore Graduate Studies” Workshop 2017
5. John D. Gannon Endowed Scholarship 2017
6. Corporate Partners in Computing Scholarship 2016, 2017
7. Omicron Delta Kappa National Leadership Honor Society 2016
8. Northrop Grumman Scholarship for Employees’ Children 2014
9. University of Maryland Dean’s Scholarship 2014