Evan M. Cofer

Bioinformatics & Computer Science

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Education

2012–Present **B.S. Computer Science (Graduating May 2017)**, *Trinity University*, San Antonio, TX, *CS GPA: 3.91/4.0*.
Trinity University Mach Research Fellow, Trinity University Trustee's Scholarship

2008–2012 **High School Diploma**, *Keystone School*, San Antonio, TX.

Honors and Awards

April 2016 **Mach Research Fellowship**, *Trinity University*.

Yearly, each academic department recommends a rising senior for the Mach, which recognizes outstanding undergraduate research achievement. From these nominees, the Faculty Research Committee selects five recipients. I was nominated by the computer science department, and subsequently chosen as a recipient.

April 2016 & December 2015 **No-Boundary Thinking Contest: First Place**, *Trinity University*.

Entrants should propose a computational solution to an interdisciplinary problem. In addition to an essay, submissions should include a presentation at the department colloquium. I competed twice, winning both times. My first submission considered the use of authorship/topic networks for improving gene name disambiguation. For the second entry, I described a means of constructing lightweight ontologies to aid in the exploration of large datasets of leaked documents. Contest award funding provided as part of an NSF EAGER grant.

December 2015 – Present **Dean's List**, *Trinity University*.

Achieved a grade point average of 3.65 or higher while taking 15 or more hours.

Research Experience

January 2016 – Present **Hibbs Computational Biology Laboratory**, *Trinity University*.

Ongoing research to examine the aging process using high volume genomics data.

Summer 2015 **Jiang Computational Game Theory Laboratory**, *Trinity University*.

Modelled the popular vote of battleground states in the 2012 United States presidential election. Predicted outcomes both nationally and state-by-state. Used bootstrapping and non-parametric Monte Carlo methods to counter poll sparsity.

Summer 2013 **Glawe Engineering Laboratory**, *Trinity University*.

Analyzed the use and accuracy of nutating disc mechanical flow meters for recycling water condensation from air conditioning systems. In addition to research, managed all equipment and developed graphical user interfaces for lab instruments.

Code and Projects

Summer 2015 **Polling Data Retrieval Program**.
A Java program to fetch and parse XML polling data from the Huffington Post Pollster API. Retrieved data is processed with MATLAB. Source code available upon request.

2015 – Present **Miscellaneous Projects**, *https://github.com/evancofer*.
Source code available upon request.

Relevant Coursework

@Trinity University, *(* denotes a course in progress during Fall 2016).*
CS Thesis I*, Principles of Functional Languages*, Theoretical Computer Science*, Operating Systems*, Database Systems*, Discrete Data Structures, Competitive Programming, Principles of Computer Design, Thesis Readings, Advanced Algorithms, Web Application Development, Data Abstraction, Computational Game Theory & Multi-agent Systems, Principles of Computer Science I & II, Probability & Statistics for Scientists & Engineers, Differential Equations & Linear Algebra, Calculus I, II, & III, Directed Studies in Computer Science, Electronic Circuits & Lab

Proficiencies

Languages and Technologies.
C++, Scala, Keras, Python, JavaScript, git, CSS/HTML, Linux, LaTeX, MIPS Assembly, bash, SQL, C, Haskell

Academic and Professional Affiliations

May 2016 – Present **International Society for Computational Biology**.
Scholarly society for researchers in computational biology and bioinformatics.

August 2015 – Present **Association for Computing Machinery**.
Professional society for computer scientists.

Conference Presentations, Posters, and Invited Talks

1 **Cofer EM** and Hibbs MA. Accurately measuring the mammalian somatic mutation rate using deep learning [talk & poster]. *Conference for Science at the Forefront of Basic and Translational Research*, October 2016. University of Texas at San Antonio. San Antonio, TX.

2 **Cofer EM**. Using deep learning to classify mutations [talk]. *Computer Science Colloquium*, September 2016. Trinity University. San Antonio, TX.

3 **Cofer EM**, Kennedy RM, and Hibbs MA. Accurately measuring the mammalian somatic mutation rate [poster]. *International Conference on Intelligent Systems for Molecular Biology*, July 2016. Orlando, FL.

4 **Cofer EM** and Hibbs MA. Using deep learning to classify mutations [talk]. *Trinity University Summer Undergraduate Research Conference*, July 2016. Trinity University. San Antonio, TX.

5 **Cofer EM*** and Witecki I*. Ontology construction: a means of improving data-driven journalism [talk]. *Computer Science Colloquium*, April 2016. Trinity University. San Antonio, TX. (*Equal contribution)

6 **Cofer EM**. Gene name disambiguation: a novel approach [talk]. *Computer Science Colloquium*, December 2015. Trinity University. San Antonio, TX.

7 **Cofer EM**, Kwessi EA, Nguyen HV, Nishikawa KA, and Jiang AX. Modeling the 2012 presidential election's battleground states [talk]. *Trinity University Summer Undergraduate Research Conference*, July 2015. Trinity University. San Antonio, TX.

8 **Cofer EM***, Ybarra T*, and Glawe DD. Positive displacement meter performance [talk]. *Trinity University Summer Undergraduate Research Conference*, July 2013. Trinity University. San Antonio, TX. (*Equal contribution)