

# ERIK BARROSO

SOFTWARE DEVELOPMENT

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○ PORTFOLIO : <https://github.com/3barr/bioScript>

## EDUCATION

- 2014 - 2018  
COLLEGE OF WOOSTER  
Bachelor of Arts | Computer Science  
Concentration in Molecular Biology  
and Genetics

## QUALIFICATIONS

Python	MySQL
C/C++	PostgreSQL
Java	PHP
R	NGS – Illumina
Matlab	RNA-seq
HTML	HPC
Bootstrap	PBS
CSS	Linux
Ruby on Rails	Git
Javascript	Agile
JQuery	Jira

## SKILLS

Work independently or collaboratively  
Strong organizational skills  
Critical thinker  
Problem solver

## EXTRACURRICULAR

Member of the Beta Beta Beta Honor  
Society for Molecular Biology  
Omega Alpha Tau Treasurer  
& board member  
Varsity Lacrosse player  
Community mentor & tutor  
Volunteer Youth Ice Hockey  
& Lacrosse Coach

## EXPERIENCE

- Ohio Agriculture Research Development Center  
BIOINFORMATICIAN
  - Created Python pipeline to streamline job submission for trimming and generate FastQC report on HPC cluster.
  - Helped biological researchers navigate Linux, download software on HPC cluster, submit jobs, and analyze data.
  - Improved draft genome of Soybean Aphid through De Novo assembly techniques using raw RNA-seq data.
  - Evaluated four trimming algorithms, tested on data and analyzed FastQC reports to select the best software.
  - Modified Trinity parallel job submission process to conform with software updates. Analyzed Transcriptome assembly using novel visualization software TGenet.
- College of Wooster Bioinformatics Group Under Dr. Erzsebet Regan  
PROGRAMMER
  - Examined large amounts of H3K9me3 genomic data by k means clustering.
  - Worked with team of bioinformatician exploring histone modification and epigenetics.
  - Used Python to draw information from known CpG islands in mice embryonic stem cells.
- University of Michigan Department of Obstetrics & Gynecology  
WEB DEVELOPER
  - Full stack development of web application, designed layout, built HTML framework and CSS, used JavaScript and Ajax to communicate to back end, where PHP files accessed live database.
  - Worked with Physicians to design and build a cross-platform web based interface for their EMR, and Quality Assurance database.
  - The web app allows end users to query data on medical cases, flag cases, and input additional data into the database.
  - Presented final web application to group of end user Physicians.
- ThermoFisher Scientific  
PROGRAMMER/DEVELOPER
  - GitHub version control and agile software development.
  - Developed a natural language processing program using Postgres SQL & Python in which the searching algorithm reviewed over 100,000 reports from Oncology clinical trials and found genomic variant keywords that matched with a therapy.
  - Worked closely with a team of scientist/curators to review and analyze database and create presentations.