

Jackson A. Killian

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EDUCATION

Ohio State University, Columbus, OH
B.S. Physics, B.S. Computer & Information Science
Major GPAs: 4.00, 3.99

Expected Graduation- May, 2018
Arts and Sciences Honors College
Overall GPA (4.00 scale): 3.993

RESEARCH EXPERIENCE

Undergraduate Thesis – Computer and Information Science

(May 2017 – present)

Ohio State University, Columbus, OH

Advisors: Dr. Kevin Passino and Dr. Arnab Nandi

Developing intelligent system to detect heavy drinking events using mobile accelerometer signals. Collaborated with Dr. John Clapp in School of Social work and developed mobile application to gather training data set from field study of 19 students. Using MATLAB and python to process signals, extract features and design classifiers to work on board a mobile application. Awarded research scholarship by Ohio State Arts and Sciences Honors Program.

Undergraduate Research Fellowship – Biophysics

(May 2016 – May 2017)

Ohio State University, Columbus, OH

Advisors: Dr. Ralf Bundschuh and Dr. Pearly Yan

Designed computational workflow to make widely available, low-quality cancer samples useable in modern sequencing experiments. Utilized Ohio Supercomputing Center and open source bioinformatics software to statistically validate degradation effects in sequencing data. Designed software adaptations based on discovered effects to improve sequencing data quality. Year-long fellowship project funded by Pelotonia of Columbus, Ohio.

Undergraduate Research Assistant – Biophysics

(Jan 2015 – present)

Ohio State University, Columbus, OH

Advisors: Dr. Ralf Bundschuh and Dr. Pearly Yan

Collaborate with team of biologists and computation scientists in the cancer research space to identify novel characteristics in human genes and epigenetics. Develop computational workflows for high-throughput sequencing data to run on clusters at Ohio Supercomputing Center. Designed novel bioinformatics application to visualize and efficiently evaluate genetic fusion candidates. Resulted in 2 publications currently under review at BMC Genomics and Thyroid.

PROFESSIONAL EXPERIENCE

Application Developer Intern

(May 2017 – Aug 2017)

PNC, Philadelphia, PA

Manager: James Snyder

Designed two ASP.NET web applications and SQL Server databases to support operations in consumer lending (applications in production.) Designed and implemented comprehensive data integrity test cases during database technology transfer. Led team of 6 to create novel user sign-on, validation and tracking workflow at internship capstone summit.

Independent Database Designer

(Jun 2015 – present)

Delaware City Bus Company, Sewell, NJ

Clients: Greg and Isabel Fath

Designed Microsoft Access database and driver schedule generator for private bus company with 1000+ assets. Implemented database on company network paired with remote desktop application to allow synchronized database access and updates from anywhere while keeping system easily maintainable. Provide technical support and implement regular updates to adapt to new user needs.

PUBLICATIONS

Killian J, Topiwala T, Pelletier A, Frankhouser D, Yan P, Bundschuh R. “FuSpot: A Web-based Tool for Visual Evaluation of Fusion Candidates” [<http://bioserv.mps.ohio-state.edu/FuSpot/>]

- Submitted to BMC Genomics, pending second round of review

PUBLICATIONS (cont'd)

He H, Li W, Yan P, Bundschuh R, **Killian J**, Labanowska J, Brock P, et al. "Identification of a recurrent LMO7-BRAF fusion in papillary thyroid carcinoma"

- *Submitted to Thyroid, pending review*

Rowell J, **Killian J**, Song C, Tate J, Balas M, Chlan L, et al. "Dynamic Methylation Changes in Critically Ill Adults: A Pilot Study"

- *Work in progress*

HONORS AND AWARDS

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- **Merit Based Undergraduate Research Scholarship**, Ohio State University (Nov 2017)
 - **One-year, Merit Based Research Fellowship**, Pelotonia, Columbus, OH (May 2016 – May 2017)
 - **Invited to Phi Beta Kappa**, merit based National Honor Society (Apr 2016)
 - **Invited to Phi Kappa Phi**, merit based National Honor Society (Oct 2015)
 - **Admitted to Sigma Pi Sigma** Physics Honor Society (Jan 2015)
 - **Dean's List**, 8 semesters, Ohio State University Arts and Sciences Honors (Aug 2013 – May 2017)
 - **Awarded National Buckeye and Maximus** merit based scholarships (Aug 2013)

LEADERSHIP ACTIVITIES

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- **Creator, Organizer of ShowOHI/O**, a science-fair-style tech showcase (Apr 2017)
 - 20 student projects, 60+ professional attendees, 100+ student attendees
 - Led team of 4 to secure venue, funding, projects, attendees, marketing
 - **Organizer of DataFest** at Ohio State, a nationwide data analytics competition (Apr 2017)
 - Organized sponsorship, marketing, team formation; mentored 150+ students
 - **Web-team lead, Organizer of HackOHI/O**, Ohio State's hackathon program (Nov 2016, Oct 2017)
 - 750+ students, 200+ professional judges + mentors, 100+ industry partners
 - Organized sponsorship, marketing, team formation, branding; mentor at event
 - Led team of 6 developers to build web site, track site analytics
 - **Project lead for data analysis contract** with Columbus Collaboratory (Apr 2016)
 - Led team of 4 to distribute survey nation-wide and perform open-ended text analysis on survey results
 - **Webmaster, Executive of Big Data and Analytics Association** at Ohio State (Dec 2015 – present)
 - Organized weekly events, collaborate with student tech organizations
 - Personally gave data mining + data analysis workshops
 - Redesigned website with support for sponsors to search 200+ resumes

POSTER PRESENTATIONS

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- **Denman Undergraduate Research Forum** (Mar 2017)
 - "FuSpot: A Web-based Tool for Visual Evaluation of Fusion Candidates"
 - **Rustbelt RNA Meeting** (Oct 2016)
 - "FuSpot: A Tool for Fusion Detector Post-analysis Coverage Visualization of Chimeric RNA-seq Data"
 - **Fall Undergraduate Research Forum** (Sept 2016)
 - "FuSpot: A Tool for Fusion Detector Post-analysis Coverage Visualization"

INVITED TALKS

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- **Pelotonia Research Symposium**, Columbus, OH (Oct 2017)
 - "FuSpot: A Web-based Tool for Visual Evaluation of Fusion Candidates"
 - **CIO Tomorrow**, Columbus, OH (Apr 2017)
 - "OHI/O: Ohio State's Hackathon Program"