Christopher Oldham

Education

2014–2019 **B.S.E. in Computer Science and Engineering (Honors)**, *Magna cum laude,*
University of Connecticut, Storrs, USA, Concentration in Bioinformatics. *GPA: 3.86/4.00.*
Honors Scholar; Sophomore Honors Award; Certificate of Outstanding Achievement; Engineering Dean's List; Upsilon Pi Epsilon Computing Honor Society; Tau Beta Pi Engineering Honor Society

Honors Thesis

Title *SCarborSNV: Efficient Phylogeny-Aware Single Nucleotide Variant Detection for Single Cells.*

Supervisor Yufeng Wu, PhD. University of Connecticut.

Description A novel, efficient algorithm for inferring mutations from noisy DNA data sequenced from closely related single cells. Mathematical description of the algorithm and a C implementation, using dynamic programming and neighbour-joining for building heuristic trees. Reduced time complexity from similar state-of-the-art tools with similar accuracy.

2014–2019 **Bachelor of Science in Physics**, *Magna cum laude,*
University of Connecticut, Storrs, USA, **Minor in Mathematics**, *GPA: 3.86/4.00.*
Research in experimental nuclear physics under Andrew Puckett; Phi Beta Kappa and Sigma Pi Sigma Honor Societies; Academic Excellence Scholarship; Dean's List

Experience

2020 **Independent Developer**, *Continuum App and CVInglés website*, USA.
- Developed, tested and launched (on Android) a daily habit-tracking app using React Native and Redux;
- Developed, tested a semi-automated CV translation, editing and typesetting website, turning user form data in either English or Spanish into a compilable LaTeX document:
  - Front end: React, Stripe, HTML, CSS, Javascript;
  - Back end: AWS API Gateway, Lambda (Python), DynamoDB, SQS, SES, CloudFront, Route53.

2018–2019 **Research Assistant**, *University of Connecticut*, USA.
Individual and collaborative research into novel bioinformatics algorithms under Yufeng Wu and experimental nuclear physics under Andrew Puckett.
- Algorithm design and benchmarking, writing custom tools in C and Python. Some of this research culminated in my undergraduate thesis;
- Testing and calibration of precision particle detector components, including ultra high speed data capture and some automation using LabVIEW.

Jun–Aug 2017 **Digital Technology Leadership Program Intern**, *United Technologies*, Hartford, CT, USA.
At Pratt & Whitney, I lead a cross-functional team to plan, prepare and execute testing for a large, business-wide software project. I worked closely with supply chain and logistics experts, software developers, aerospace engineers, multiple IT teams and management to develop and execute a test strategy that covered integration testing and user acceptance testing.
- Worked with the business to define over 250 use-case scenarios for the new software, and coordinated multiple business and IT teams to develop test scripts;
- Organised test preparation and test execution, including identifying testers and ensuring system readiness. This included planning and running frequent meetings, some with 30+ attendants;

May–Aug 2015–2016 **User Experience & Technology Genius**, *Darien Library*, Darien, CT, USA.
Working with the systems administrator in the User Experience office, I not only aided in the library's software research and development but also played a public-facing IT role.

Dec 2015–Mar 2016 **Systems Integration Engineer**, *NXEGEN, LLC*, Middletown, CT, USA.
Assisted with back end maintenance and development using Visual Studio, C#, MS SQL; Assembled and compiled efficiency reports from test data, turning SQL commands into actionable information.

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