BENJAMIN FAWCETT

WEB/SOFTWARE DEVELOPER

PROFILE

I'm Benjamin Fawcett, a graduate of the University of North Carolina at Chapel Hill with an interest in web and software development. I have extensive knowledge of computer science with proficiency in Matlab, Python, Java, Node, Mathematica, and MySQL. I am looking for an opportunity to explore new enterprises in software or web development to gain experience in the industry and refine my development skills to be applicable in a non-academic setting. My dedication to learning new skills and applying my coding expertise to real-world problems is evident, as I continue to explore new computational techniques through the courses offered online via Coursera, and I am ready to prove myself as a proficient developer in the ever-evolving field.

EDUCATION

University of North Carolina – Chapel Hill (2016 – 2019)

Chemistry – Biochemistry B.S.,
Biology – Quantitative B.S.,
Computer Science Minor

GPA: 3.855

Relevant Coursework:

- Analysis and Interpretation of Sequence-Based Functional Genomics Experiments
- Bioalgorithms
- Computational Models in Biology
- Computer Organization
- Data Structures
- Foundations of Programming
- Internet Services and Protocols

North Carolina School of Science and Mathematics (2014 – 2016)

Durham, NC

GPA: 5.417

Relevant Coursework:

- AP Computer Science
- Mathematical Modeling
- Structure and Dynamics/Modern Networks

New Hanover High School (2012 – 2014)

Wilmington, NC

COMPUTATIONAL SKILLS

- C
- HTML/CSS
- Java
- Linux
- Matlab
- Mathematica
- MySQL
- Node.js
- Python
- Solidworks

WORK EXPERIENCE

Undergraduate Researcher

Gold Lab, Gillings School of Global Public Health, Chapel Hill, NC 2016 - 2019

Under the direction of Dr. Avram Gold and Dr. Jason Surratt, I worked to synthesize and characterize isoprene-derived secondary organic aerosols. During my research, I used a wide variety of analytical techniques, such as high-performance liquid chromatography, thin layer chromatography, gas chromatography, mass spectrometry, and proton and carbon nuclear magnetic resonance. My research was also approved for submission as an honors thesis in the Chemistry department in the UNC-CH College of Arts and Sciences, which was completed in April 2019 and approved for Highest Honors.

Research Assistant

Zhang Lab, Boston University Photonics Center, Boston, MA Summer 2017

Under the direction of Dr. Xin Zhang and graduate student Ryan McNaughton, I worked on several different projects with a focus on biomedical engineering. During my work in the Zhang lab, I prepared several sets of PDMS surfaces for neuronal cell growth and used atomic force microscopy to image these surfaces. I also worked on another project preparing dilutions of bovine whole blood samples and collecting data using a novel biomedical device connected with Matlab.

CONTACT

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AWARDS

Highest Honors in Chemistry
UNC-Chapel Hill 2019

Barry Goldwater Scholarship Nominee
UNC-Chapel Hill 2017

First Place – UNC Social Entrepreneurship Competition
North Carolina School of Science and Mathematics 2016

National Merit Scholar
North Carolina School of Science and Mathematics 2015

RESEARCH SKILLS

- High-Performance Liquid Chromatography
- GC-MS
- ^{1}H and ^{13}C NMR
- Small molecule organic synthesis
- Cell culture
- Cell transformation and induction
- Protein purification and activity assays
- DNA/Protein Gel Electrophoresis
- Restriction Digest
- Atomic Force Microscopy

WORK EXPERIENCE

(CONT)

Researcher and Curriculum Development

North Carolina School of Science and Mathematics, Durham, NC Spring 2015

During this experiential learning research course, I performed novel methods for construction and electrochemical analysis of a new type of dye-sensitized solar cell. I constructed thin-film titanium dioxide solar cells and prepared various organic dyes for use within the thin-film cells to analyze power output analysis under solar conditions. As part of this research, I created an apparatus for construction of an I-V curve and documented a lesson plan for future use of these techniques within the electrochemistry curriculum.

Research Assistant

Erramilli Lab, Boston University Photonics Center, Boston, MA Summer 2014

While working with the Erramilli lab, I worked on a biological physics project examining the conformational changes of the bacteriorhodopsin protein in the presence and absence of light. During this time, I was trained to use atomic force microscopy to analyze a wide array of biocompatible substrates. I documented their physical topography and analyzed their potential for use in quantifying the microscale conformational changes presented by the protein.

Data Analytics Intern

Global Oncology, Cambridge, MA Summer 2014

I worked with Dr. Franklin Huang and Dr. Ami Bhatt to analyze and organize thousands of data points for their collaborative Global Oncology Map. The Map, which is a tool for users worldwide to identify nearby cancer care centers and projects, aimed to improved accessibility for cancer patients to receive care. My role involved mass data analysis with a focus on confirming and documenting doctor names, geographic coordinates, and services provided for thousands of care centers globally.

REFERENCES

Adam Bowker
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Imagicode, LLC.
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Dr. Avram Gold
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Dr. Xin Zhang
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