Elliott Capek

Work Experience

2013 - Present

Computational Physics Thesis
Roundy Computational Physics Group

I am working on a numerical simulation of a motor protein using Brownian dynamics and a state-transition model to predict Dynein motor protein movement behavior. Skills gained:

-Applying Lagrangian/Brownian dynamics equations to simulate microscopic structure behavior

-Simulating systems using finite difference method

-Programming experience in C/++, Python, Mathematica, LaTeX

2013 - 2014

Biophysics Lab Assistantship
Qiu Biophysics Group

I worked in a biochemistry lab purifying proteins and preparing them for microscopy experiments, among other tasks. Skills gained:

-Writing line-finding code in Matlab to aid in data analysis

-Growing proteins in an *E. coli* medium

-Performing biochemistry lab procedures: protein purification, gel electropheresis, buffer preparation, etc.

-Conducting microscopy experiments using a Total Internal Reflection microscope

2011 - Present

NPO Web Development

I design and maintain websites for a group of related nonprofit organizations, most notably Sisters of the Community. Skills learned on-job:

-Deploying custom sites using the WordPress CMS

-Customizing WordPress themes in PHP

-Managing hosting and domain name services for sites

-Working with my employer to create stylistic and usable site designs

2013-2014

Web Development
Adword Associates LLC

I worked for a web design company where I:

-Rapidly developed WordPress sites based on our client's specifications

-Managed hosting and DNS services for these websites

2012 - 2013

MATE Robotics Competition, Technical Lead
Willamette University

I was the technical lead for a college robotics team. Tasks I accomplished on the team:

-Designed mechanical and electrical systems for an underwater ROV

-Programmed rudimentary communication between different ROV systems

-Organized a 1400$ team budget

🏠 703 NW 4th Street, Corvallis, OR 97330

📞 +1 971 207 8193

✉ elliotc12@gmail.com

Education

2013 – Present (Expected 2018)	**Bachelor's Degree (transfer)** *Oregon State University* Physics Biochemistry Computer Science (minor) GPA: 3.73
2012 – 2013	**Bachelor's Degree (began)** *Willamette University*

Technical Skills

Programming	**C/++**, **Python**, **LaTeX**, Rust, PHP, MATLAB, Javascript
Tools	**Linux**, **git**, **matplotlib**, **WordPress**, **HTML/CSS**, Drupal, Mathematica, MySQL, **GIMP**, ImageJ, CUDA
Skills	Numerical simulation Systems programming Line-finding algorithms

Communication experience

2014	2014 Northwest Section APS Meeting Poster Session presentation
2014	OSU Undergraduate Research Symposium 10-minute talk

Relevant Coursework

Numerical Simulation	Applied Bioinformatics
Computational Physics	Operating Systems I
Analysis of Algorithms	Cryptography
Data Structures	

Other experience

2015	Intro Physics Lab TA
2014	ICFP Programming Contest - 52nd place
2012 - 2013	Willamette University physics lab assistant
2008 - 2012	FIRST Robotics Competition

Github

github.com/elliotc12