

**Philip Robinson**

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## Personal Statement

I have 7+ years experience, solving increasingly difficult problems with software. My diverse work history spans both products and research, including data pipelines/management, medical informatics, programming languages, and computer securities. My graduate studies focused on applications of machine learning in audio, image, and text processing. I have developed strong interests in data analysis/exploration, information retrieval, data engineering, and machine learning.

## Persistent Experience :

Python	C, C++	Linux	TDD
R, dplyr	TeX	Git	Ticketing Systems

## Work Experience

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### Graduate Research with ACO - Marine Acoustics Engineer (continuing)

Researched deep unsupervised anomaly detectors, for sane indexing of 10 year audio track  
Developed ACOio, an intuitive ACO track explorer, to rejuvenate data access for researchers  
Developed principled audio processing and noise-suppression, focused on marine bioacoustics

**Technologies :** Python, ACOio, tensorflow, scipy.signal, Jupyter

### HappyWhale - Staff Engineer March 2019 - present

### Thinkful (Part Time) - Data Science Technical Expert Jan. 2019 - present

Advised career transitioners in mastery of professional and data science topics  
Provided safe environment for training and instruction in a remote-first setting

### NASA Jet Propulsion Lab - Graduate Data Science Intern June 2018 - Sept. 2018

Fully specified programmatic solution from use-case meetings with top NASA/JPL employees  
Designed & developed Expert Modeling/Recommender System, by extending the Author-Topic-Model  
Implemented stable/principled text normalization, tokenization, and model evaluation  
Open Source contributions to the gensim's natural language processing library

**Technologies :** Python, nltk, gensim, pyLDAvis, pandas, Jupyter

### OHSU Fair Neuroimaging Lab - Research Assistant Oct. 2017 - June 2018

Contributed to microbiome population analytics tools, to study female reproductive system  
Developed processing pipeline and audit tools for reported data and FMRI, on ADHD/ASD studies  
Acted as standards and Open Source release lead, developing and enforcing best practices

**Technologies :** Python, Bash, R, neo4j, ponyorm, stan, GitLab, Docker

### Contractor/Consultant

#### RGB Optics / C&W Energy USA (Part Time) Nov. 2015 - Aug. 2018

Developed custom photo image processing tools for low cost spectral profile analysis  
Authored educational material in light pollution's effect on economy, biology, and technology  
Provided live technology tutorials and consulting on optimization and image processing

#### ComScore June 2016 - Sept. 2016

Worked to support large, custom, memory mapped, data store for demographic analysis

**Technologies :** Python, numpy, skimage, R, AWS, PostgreSQL, Perl, C++, Jira, ZenHub

### Galois Inc. - Research Engineer April 2014 - Dec 2015

Contributed to PPAML, Overseas Voting Foundation, Safeware, Robot Fast Track  
Developed processing pipelines and workflows to enable evaluator work for DARPA programs  
Produced biannual quantitative and qualitative reports on for DARPA and language developers

**Technologies :** Python, SLURM, Scala, Figaro, Chimpy, Docker, Jira, Basecamp

### EMC<sup>2</sup> Isilon Storage - Software Development Engineer Dec. 2012 - July 2013

Designed and developed password manager to supporting self encrypting drives in FreeBSD  
Brought to schedule a lagging anchor release feature in approximately 5 months  
Participated in threat modeling for multiple security sensitive applications

**Technologies :** C, C++, Python, SQLite, Subversion, FreeBSD, OpenSSL

# Neato Projects

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Multiple Myeloma Clinical Trials, custom named-entity boosted topic model	<i>numpy, Python</i>
Topic modeling and applications, a presentation for non-statisticians	<i>beamer, <del>TeX</del></i>
Workshop collaborative introduction to GitHub and slides	<i>markdown, bash, github.api</i>
Morphological Watershedding Algorithms	<i>pyspark, numpy, ndimage, Python</i>
Relevance Vector Machine	<i>Julia</i>
Information Retrieval Cluster/Rank Demo Harness	<i>flask, numpy, nltk, sklearn, Python</i>
Gene Data Breast Cancer Drug Predictor	<i>R, caret</i>
Distributed Fully Homomorphic Encryption System	<i>Hadoop, Sagemath</i>
Concurrent Elliptic Curve Cryptography Module	<i>Sagemath, Erlang</i>
Multilingual Analysis of Subordinating and Coordinating Conjunctions	<i>R, Perl</i>
AdaRailz Concurrent Model Train Control System	<i>Ada</i>

# Education

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## Oregon Health Science University

CSLU

Computer Science MSc  
2016 - present

### Courses :

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|---------------------------------------|--|
| ★ Advanced Topics in Machine Learning | ★ Natural Language Processing          |
| Deep Learning                         | ★ Advanced Topics in Signal Processing |
| Machine Learning                      | Speech Signal Processing               |
| Artificial Intelligence               | Problem Solving with Large Clusters    |
| Statistical Methods                   | Image Processing                       |
| Univariate Statistical Analysis       | Information Retrieval                  |
| Analysis of Sequences                 | Computing Ethics                       |

## Western Washington University

Computer Science

Computer Science BS, Mathematics Minor  
June 2012

### Electives :

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|--------------------------------|---------------------------------|
| Homomorphic Encryption Systems | Computer Architecture           |
| Cryptography & Elliptic Curves | Number Theory                   |
| Artificial Intelligence        | Elementary Real Analysis        |
| Natural Language Processing    | Abstract Algebra                |
| Functional Programming         | Linear Algebra I/II             |
| Computer Graphics              | Ordinary Differential Equations |