# Philip Robinson

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**https://github.com/probinso**


## Personal Statement

I love to work on hard problems and value the knowlege needed to generate solutions in new domains. I am an adaptable engineer, whose work history spans products and research in machine learning, software engineering, scientific computing, and computer securities.

**Skills/Experience :**

| | | | |
|---|---|---|---|
| Python | C, C++ | Linux | TDD |
| R, dplyr | LaTeX | Git | Ticketing Systems |

## Work Experience

**Graduate Research OHSU/ACO – Machine Learning in Marine Acoustics (continuing)**

- Acted as project lead and managed communication in a remote environment without supervision
- Researched deep anomaly detectors, to index bioacoustic events from a 10 year audio track
- Measured effects of adaptive spectral subtraction, for audio denoising, on model accuracy
- Developed ACOio, an intuitive ACO track explorer, to rejuvenate data access for researchers

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

**HappyWhale – Staff Software Engineer March 2019 – present**

- Worked as software developer in nimble small team in both a remote and onsite environment
- Developed SciDir, a cross platform tablet application for managing citizen-science projects
- Maintained and contributed to user tools for individual whale identification and tracking

**Technologies : NativeScript, Angular, node.js, Android, iOS, PostgreSQL, Java**

**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 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 and FMRI data, on AHDH/ASD studies
- Acted as OSS and Securities lead, developing, training and enforcing best practices

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

**RGB Optics (Part Time) – Remote Contractor/Consultant Nov. 2015 – Aug. 2018**

- Developed custom photo image processing tools and pipelines for low cost spectral analysis
- Authored educational material in light pollution's effect on economy, biology, and technology
- Developed natural language processing tools to organize and explore Myeloma clinical trials
- Provided technology tutorials and consulting on code optimization, NLP, and image processing

**Technologies : Python, numpy, skimage, AWS, ponyorm, PostgreSQL, ZenHub, CliNER**

**Galois Inc. – R&D Software Engineer April 2014 – Dec 2015**

- Developed processing pipelines and workflows to enable evaluator work for DARPA programs
- Helped run professional trainings to disseminate new probabilistic programming languages
- Produced biannual quantitative and qualitative reports on for DARPA and language developers
- Contributed to PPAML, Overseas Voting Foundation, Safeware, Robot Fast Track

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

## Neato Projects

| | |
|---|---|
| Practical topic modeling, a detailed presentation for non-statisticians | ***beamer, LaTeX*** |
| Workshop collaborative introduction to GitHub and slides | ***markdown, bash, github.api*** |
| Distributed Morphological Watersheding Algorithms | ***pyspark, numpy, ndimage, Python*** |
| Information Retrieval Cluster/Rank Demo Harness | ***flask, numpy, nltk, sklearn, Python*** |
| Distributed Fully Homomorphic Encryption System | ***Hadoop, Sagemath*** |
| Concurrent Elliptic Curve Cryptography Module | ***Sagemath, Erlang*** |

# Education

## Oregon Health Science University — Machine Learning

Computer Science MSc
2016 – present

**Courses :**

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

## Western Washington University — Computer Science & Cryptography

Computer Science BS, Mathematics Minor
June 2012

**Courses :**

- Unix Software Development
- Windows Software Development
- Operating Systems
- Computer Networks
- Software Project Requirements Analysis
- Software Project Design
- Software Project Implementation
- Analysis of Algorithms
- Linear/Non-Linear Data Structures
- Discrete Structures
- Formal Languages/Automata
- Programming Languages
- Concurrent Programming
- Computer Organization I/II
- Probability and Statistical Inference
- Object-Oriented Programming in C++

**Electives :**

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