# THOMAS WOOD

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Applied mathematician / Data scientist who is passionate about energy policy, biogerontology, and automation. My previous experience includes graph machine learning, computer vision, and open-ended question answering systems. Currently working on deep reinforcement learning for robotics.

## **EXPERIENCE**

### **AI SCIENTIST**

**SYNPON LABS**

**Jun 2013 - Present**

- Open ended question answering systems with Theano and PyTorch  
- State estimation, planning, and dynamic control of humanoid robotics with MuJoCo, Unity, and Drake  
- Deep reinforcement learning agents that play games with TensorFlow and PyTorch  
- Applied multi-modal computer vision research using PyTorch, Caffe, MS COCO, and Visual Genome  
- Open source and commercial software development and consulting services  
- Horticultural automation and vertical indoor farming

### **Machine learning engineer**

**Portland general electric**

**JUN 2020 – DeC 2020**

- Guide data science products from local development to AWS production environment  
- Architect machine learning workflows in the cloud  
- Evangelize modern best software engineering practices around MLOps in the cloud  
- Research and development of new data science products

- Product management  
- Reason for leaving: short term contract expired

### **DATA SCIENTIST**

**NIKE**

**May 2019 – JUN 2020**

- Cloud native ETL development with Airflow, Spark, and AWS Redshift  
- Data visualization with AWS Quicksight  
- Python training lead  
- NodeJS micro-services with AWS Lambdas for real time data analytics  
- Data and machine learning cloud solution architecting  
- DevOps best practices with CloudFormation, Jenkins, BitBucket, and Git  
- Reason for leaving: Nike cancelled all contract extensions during Covid.

### **AI SCIENTIST**

**HUAWEI**

**Jul 2018 - Jan 2019**

- Visual relation detection, Scene graphs, and Semantic segmentation of images with TensorFlow and Caffe  
- Design of algorithms for graph deep learning at scale and applications to traffic modeling  
- Software engineering with Go, Linux, Docker, Flask, Python, CUDA, and C/C++  
- Graph database engineering with gremlin, neo4j, and Huawei graph engine service  
- Reason for leaving: The arrest of their CFO for Huawei’s dealings with Iran had a considerable impact on Huawei’s business and their relationship with the United States government. I thought it was prudent to seek a different position.

### **MACHINE LEARNING SCIENTIST**

**ASTOUND**

**Dec 2017 - Mar 2018**

- Development and Implementation of AutoML systems with Python, Keras, and Flask  
- Natural Language Understanding applied to Conversational AI  
- Reason for leaving: Astound lost a very important contract and laid off all their new hires as a result.

### **DATA ANALYST**

**INTEL**

**May 2017 - Aug 2017**

- Creation of automated ETL tools using Pandas and MongoDB  
- Strategic insight through analysis of time series data  
- Developed novel web scrapers for data acquisition  
- Reason for leaving: short term contract expired

### **SENIOR DATA ANALYST**

**MICROSOFT**

**Jan 2016 - Feb 2016**

- Text Categorization and Sentiment Analysis with AzureML  
- Data Munging with SQL and Python  
- Data Science training and consultation  
- Reason for leaving: short term contract expired

### **SOFTWARE ENGINEER**

**SPORTSWEAR, INC.**

**Dec 2014 - May 2015**

- Image processing and digital embroidery software engineering with CUDA and C++  
- Build and test engineering with Python  
- Data analysis and strategic insight with Python  
- Reason for leaving: The position started out as a back end CUDA engineer role and transitioned into a C# front end role that I was uncomfortable with at the time.

### **RESEARCH SCIENTIST**

**UNIVERSITY OF WASHINGTON SCHOOL OF MEDICINE**

**Apr 2013 - May 2013**

- Developed software to repurpose FDA approved compounds through combining atomic level knowledge of compound-protein interactions with compound-disease associations which was able to identify a known use for over one in four FDA approved drugs which passed an initial screening against the human genome.  
- Reason for leaving: I was able to complete what was initially estimated to be a 6 month project given only 6 weeks of time and I left to start my own consulting firm.

### **RESEARCH FELLOW**

**UNIVERSITY OF WASHINGTON SCHOOL OF MEDICINE**

**Jul 2011 - Aug 2012**

- Created method to simulate single nucleotide polymorphisms and used Gaussian anomaly detection to identify mutations which effected gene function.   
- Reason for leaving: We didn’t get the grant.

## **EDUCATION**

### **UNIVERSITY OF WASHINGTON**

**MASTER OF SCIENCE - APPLIED MATHEMATICS**

Focus on Data Science, Scientific Computing, and Robotics

### **LAMAR UNIVERSITY**

**BACHELOR OF SCIENCE - PHYSICS**

Focus on Quantum Field Theory and Longitudinal Optics

## **CERTIFICATIONS**

* Deep Reinforcement Learning Nanodegree - Udacity
* Underactuated Robotics - MIT EdX
* Initiating and Planning Projects - UCI Coursera
* Plasma Physics and Applications - EPFL EdX
* Intro to Parallel Programming - Udacity
* Algorithms - Udacity
* Data Wrangling with MongoDB - Udacity
* Machine Learning - Stanford Coursera