

# ROBED BEAUVILE

Pittsburgh, PA 15224 • (850) 354-0565 • [robedbeauvil@gmail.com](mailto:robedbeauvil@gmail.com) • [linkedin.com/in/robed-beauvil](https://www.linkedin.com/in/robed-beauvil) •

[github.com/beauvileroled](https://github.com/beauvileroled) • [beauvileroled.github.io/portfolio](https://beauvileroled.github.io/portfolio)

## EXPERIENCE

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### University of Pittsburgh Teaching Assistant

Pittsburgh, PA  
Aug 2018 - Present

- Designed a calculus-based chatbot using a 3-layer neural network with a stochastic gradient descent optimization algorithm.
- Built a Django web application that produced multi-step visualizations to help students solve integrals and derivatives in Calculus 1.
- Delivered two seminars on learning SQL through set theory and an example of a relational database for a fitness web app.
- Cultivated and taught course material to over 50 students in 6 weeks, accomplished a 93% passing.
- Developed course material for Analytical Geometry, Calculus 1, 2, 3, Theoretical Math, and Discrete Math.

### Cydoc, LLC Backend Software Engineer Intern

Remote  
Dec 2020 - Apr 2021

- Developed software based on artificial intelligence that helps doctors and patients communicate in a team of 5.
- Designed database schema and REST APIs, such as creating an endpoint to return the most recent N-notes to the frontend (e.g.,  $N = 5$ ) for a particular patient.
- Programed Stripe API into payment processing backend using python3.

### Bluetoad, Inc Junior Software Developer

Remote  
Jun 2020 - Oct 2020

- Coded and debugged JavaScript (ES6) code within HTML5-based templates and tested it for cross-browser compatibility.
- Engaged in weekly product meetings and explained managed projects and issues in a team of 7.

### 3 Selected Projects

- Starbucks Rewards: Predict Consumer Responses on eight offers.
  - Enabled Extreme Gradient Boosting and Data Mining/Data Analysis techniques to optimize promotion targeting for Starbucks' simulated data with over 22000 instances.
  - Increased the F1 metric by 125% compared to the benchmark multiclass logistic regression model.
- Dog Breeds Image Classification on 133 classes.
  - Boosted the performance of the ResNet-18 convolutional neural network algorithm via profiling, debugging, and hyperparameter-tuning.
  - Prepared and staged data, trained and deployed the model, implemented a lambda and step-function workflow, tested and evaluated, and cleaned up cloud resources.
- Design and Analysis of Algorithms and Data Structures
  - Completed over 80 problems with 725 test files from Stanford University and USC online courses on Coursera.
  - Created data structures, such as graphs, for algorithms, such as Dijkstra's shortest path, which passed 100% of tests cases.

## EDUCATION

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### University of Pittsburgh *Ph.D., Major in Mathematics; Fixed Point Theory and Local Optimization*

Pittsburgh, PA  
2017 - Present (Est Graduation, 2023)

### Udacity Inc. *Machine Learning Engineer Nano-degree*

Remote  
2021 - 2022

- Deployed machine learning models based on cleaned datasets to an API endpoint and integrated the models into a workflow.
- Built deep neural networks for real-world computer vision and natural language processing problems.
- Operationalized machine learning pipelines to enable training and deployment on industry-wide problems.
- Achieved a solution to the Machine Learning final challenge.

### University of Pittsburgh *Masters of Arts, Major in Applied Mathematics; GPA: 3.84/4.00*

Pittsburgh, PA  
2017 - 2019

- **Courses:** Matrices and Linear Operators, Scientific Computing, Methods in Applied Mathematics, Combinatorics

### Florida State University *Bachelors of Science, Major in Mathematics; GPA: 3.90/4.00*

Tallahassee, FL  
2014 - 2017

- **Courses:** Mathematical Statistics, Probability, Linear Algebra, Programming in C++

## ADDITIONAL INFORMATION

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- **Programming:** Python (NumPy, Keras, NLTK, Pandas, sci-kit learn, PyTorch), JavaScript (ES6), SQL, HTML5, CSS3, PHP, C++
- **Machine Learning Algorithms:** Linear Regression, Logistic Regression, Convolutional Neural Networks, Gradient Boosting, Decision Trees, Deep Neural Networks
- **Data visualization:** Excel, Matplotlib
- **Tools:** Django, Linux, git, latex, Microsoft Office, markdown, MySQL, Jupyter, AWS SageMaker, S3, EC2, Lambda