

# BRODDERICK C. RODRIGUEZ

(970) 309-0101 [◇ bcr@brodderick.com](mailto:bcr@brodderick.com)  
[linkedin.brodderick.com](https://www.linkedin.com/in/brodderick) [◇ git.brodderick.com](https://github.com/brodderick)

## EDUCATION

---

- Auburn University**, M.S. Computer Science & Software Engineering (4.0 GPA) *January 2019 - May 2020*  
**Auburn University**, B.S. Computer Science *August 2014 - December 2018*  
**Relevant Coursework:** Artificial Intelligence, Machine Learning, Adversarial Machine Learning, Computational Biology, Deep Learning, Data Mining, Algorithms & Data Structures, Software Modeling & Design  
**Honors:** Graduate Fellowship Award, Dean's List

## SKILLS

---

- **Key Skills:** Classification, Regression, Clustering, Data Inference, Data Visualization, Simulation
- **Primary Tools:** Python, High Performance Computing (Torque), MacOS, Linux (Ubuntu, CentOS), Git
- **Packages:** SciKit-Learn, Keras (TensorFlow), NumPy, Pandas, SciPy, Matplotlib, Seaborn, Jupyter Notebook
- **Secondary Tools:** Scala, Java, C++, NetLogo, Bash, iOS Development
- **Machine Learning:** Regression (*Linear, Logistic*), Instance-Based (*kNN, SOM, SVM*), Decision Trees (*CART, ID3, Random Forest*), Bayesian, Clustering (*k-Means, HAC*), Rule-based (*XCS, XCSR*), Neural Networks (*MLP, RBFN, SGD*), Deep Learning, Model Ensemble

## RELEVANT EXPERIENCE

---

- Graduate Research Assistant, Auburn University** May 2018 - Present  
*Department of Computer Science & Software Engineering* *Auburn, AL*
  - Adapted machine learning for U.S. Military wargaming policy analysis
  - Developed an API to visualize Coherent Agent interactions used by Auburn's C.S. Simulation Lab
- Software Engineer, WonUpIt** January 2015 - August 2017  
*25-person Seed-funded Social Media Start-up* *Atlanta, GA*
  - Led a team of 4 developers to release 10 updates to improve functionality and introduce new features
  - Initiated a process to develop future updates and maintain legacy code
- Graduate Teaching Assistant, Auburn University** May 2019 - August 2019  
*Department of Computer Science & Software Engineering* *Auburn, AL*
  - Algorithms: class of 36 students; responsible for grading, proctoring, office hours, study sessions
- Technician Intern, Everwave Technologies** May 2016 - August 2016  
*Regional Internet Service Provider* *Aspen, CO*
  - Installed T1 lines and a WiMax data transport to improve internet access speeds

## RELEVANT PROJECTS

---

- Strategy Learning System** ([Github](#)) ([PowerPoint](#)) August 2018 - Present  
*Project in: machine learning, feature-driven simulation, wargaming (DoD)*
  - Performs wargaming policy analysis by learning feature presence which yields a desirable wargame objective
  - Capacities: plug in an existing model, generate an ensemble via Latin hypercube sampling, generalize experiment space using a Learning Classifier System, explain model feature arrangement requirements through Heatmaps
- Hypertune** ([Github](#)) November 2019 - December 2019  
*Project in: machine learning, optimization*
  - Python package for automated hyperparameter tuning via Particle Swarm Optimization
  - Compatible with custom ML implementations as well as SciKit-Learn, Keras, PyTorch, etc.
  - Supports discrete, continuous, categorical, tuple, & object parameters
- Cogent Visualization Tool** ([Github](#)) May 2018 - August 2018  
*Project in: agent-based simulation*
  - Scala API for visualizing Coherent Agent (Cogent) interactions and emergent behavior
  - Supports parallel simulations of Cogent groups on different contexts