Chris **Barrick**

Software Engineer · Data Scientist

Athens, GA

(828) 342-2580 | cbarrick1@gmail.com | cbarrick | csb1024

Skills

Languages	Python, Prolog, Java, Go, JavaScript (Node.js), SQL, Shell
Platforms	Google Cloud, Anaconda, Debian/Ubuntu, Arch Linux
Technologies	Docker, Git, Spark, Hive, PyTorch, Tensorflow

Experience

UGA Institute for Artificial Intelligence — *Athens, GA*

Research Assistant — *Aug. 2016 - PRESENT*

- Developing predictive models for solar energy collection using more than 2TB of historical forecast data.
- Developed a data ingestion pipeline for NOAA weather forecasts in Python with xarray and netCDF.

Hayver — *Atlanta, GA*

Prolog Developer and Intern — *May. 2017 - Aug. 2017*

- Advised business leaders in the transition from a legacy Prolog system into a Java-based microservice architecture.
- Drafted a data model with support for dynamic objects on a SQL backend.

Digital Envoy — *Atlanta, GA*

Software Development Intern — *May. 2016 - Aug. 2016*

- Developed a system on Hive to alert for suspicious changes to weekly database releases.

Engage — *Clayton, GA*

Frontend Web Developer — *Jul. 2013 - Jun. 2014*

- Prototyped mobile apps using web technologies with Apache Cordova.

Education

University of Georgia — *Athens, GA*

M.S. Artificial Intelligence — *Aug. 2016 - PRESENT*

- Thesis on predictive models for solar energy collection.
- Interdisciplinary coursework in Computer Science, Linguistics, and Philosophy.
- **Courses:** Knowledge Based Systems, Generative Syntax, Philosophy of Language, Algorithms, Decision Making under Uncertainty, Biomedical Informatics, Data Science II, Applied Machine Learning, Advanced Data Analytics, Data Science Practicum

University of Georgia — *Athens, GA*

Computer Science and Cognitive Science — *Aug. 2011 - Dec. 2015*

- Double major with an area of emphasis in Artificial Intelligence.
- Developed a conditional term-rewriting system in Prolog as a directed study in AI.
- **Select courses:** Model Theory, Symbolic Programming, Evolutionary Algorithms, Artificial Intelligence, Linear Algebra, Multivariable Calculus, Cognitive Psychology, Philosophical Psychology, Computer Networks, Databases

Organizations

DELUG: Deep Learning @ UGA — *Athens, GA*

Member & Officer — *Nov. 2017 - Apr. 2018*

- Spoke at the club's inaugural meeting on vanishing gradients and tips to avoid them.
- Became an officer in Feb. 2018.

Projects

Elizabeth: Scalable malware detection

UGA

`github.com/dsp-uga/elizabeth` *2018*

- A Spark based approach to the Microsoft Malware Classification Challenge.
- Developed in a team of three over two weeks as a project in UGA's Data Science Practicum.
- Achieved the best accuracy in the class.
- I implemented the preprocess pipeline and naive Bayes analysis.
- I also implemented the build and deployment scripts for Google Cloud Dataproc.

Evo: Parallel genetic algorithms in Go

UGA

`github.com/cbarrick/evo` *2016*

- Support for fine-grain parallelism in arbitrary topologies.

Rw-Prolog: An equational logic programming language

UGA

`github.com/cbarrick/Rw-Prolog` *2015*

- Extends Prolog's unification semantics with support for conditional term-rewriting.
- Implemented as a meta-interpreter in Prolog.
- Developed a regular expression engine using the language.

Plum: A logical agent for the board game *Clue*

UGA

`github.com/cbarrick/plum` *2014*

- Communicates with a human operator in natural language (English).
- Models knowledge as a constraint satisfaction problem.
- Uses path-finding and probability estimates to make decisions.
- Super-human performance.

Publications

Conferences

2017 **Solar Radiation Prediction Improvement Using Weather Forecasts.** Sanders, Barrick, Maier, Rasheed. *IEEE ICMLA*

Presentations

2017 **Git Going.** An intermediate tutorial on Git. `github.com/dsp-uga/git-going`. *UGA CSCI 8360*

2017 **Vanishing Gradients.** `goo.gl/B7x3YF`. *DeLUG*

2016 **Artificial Intelligence.** Presented to a high-school science club. `goo.gl/9KX3kU`. *RGNS Science club*