Chris **Barrick**

Software Engineer · Data Scientist

Athens, GA

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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 / Personal

`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*