

Chris Barrick

A.I. SYSTEMS ENGINEER · DATA SCIENTIST

Athens, GA

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Skills

Languages Python, Prolog, Rust, Go, Java, JavaScript (Node.js), SQL
Platforms Google Cloud Dataproc, Anaconda, Debian/Ubuntu, Arch Linux
Technologies PyTorch, Tensorflow, Spark, Hive, netCDF/HDF5, CLP(FD), Scikit-learn, NLTK, Jupyter, Docker, Git

Experience

UGA Institute for Artificial Intelligence

RESEARCH ASSISTANT

Athens, GA

Aug. 2016 - PRESENT

- Developing predictive, deep learning models from 2TB of forecast data using PyTorch.
- Developed a data ingestion pipeline for NOAA weather forecasts in Python with xarray and netCDF.

Hayver

PROLOG DEVELOPER AND INTERN

Atlanta, GA

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

SOFTWARE DEVELOPMENT INTERN

Atlanta, GA

May. 2016 - Aug. 2016

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

Engage

FRONTEND WEB DEVELOPER

Clayton, GA

Jul. 2013 - Jun. 2014

- Prototyped mobile apps using web technologies with Apache Cordova.

Education

University of Georgia

M.S. ARTIFICIAL INTELLIGENCE

Athens, GA

Aug. 2016 - PRESENT

- Thesis on predictive models for solar energy production.
- 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

COMPUTER SCIENCE AND COGNITIVE SCIENCE

Athens, GA

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

MEMBER & OFFICER

Athens, GA

Nov. 2017 - Present

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

Projects

Hydrus: Scalable document classification in Spark

UGA

github.com/dsp-uga/hydrus

2018

- Assignment for UGA's Data Science Practicum; prefab algorithms disallowed (e.g. MLlib).
- Implements Gaussian Naive Bayes and Logistic Regression from low-level RDD operations.
- Deployed to 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 with CLP(FD).
- Uses path-finding and probability estimates to make decisions.
- Super-human performance.

Publications

PUBLICATIONS

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