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Skills

Python	HPC	Javascript
Postgres	SQL	LaTeX
PostGIS	R	Version control
Numpy/SciPy/Pandas	Simulation	Machine learning
IPython	Agent-based modelling	ggplot
Java	Statistics	
CDR	Survey data	

Education

09/2012-09/2016

PhD Complex Systems Simulation and Social Statistics, University of Southampton, Southampton

09/2009-07/2012

BSc Computer Science with Artificial Intelligence (1st), City University, London

Experience

2016-current

Data Analyst & Developer, Flowminder Foundation

Analysis of CDR and population data. Extensive use of Postgres and PostGIS for analytical work, often in time sensitive conditions, contributed to and developed numerous tools in Python to support analytical work.

2010-2016

Teaching Assistant, University of Southampton

Worked as a teaching assistant on both introductory statistics, and Python courses, supporting undergraduate's learning.

2010-2012

Technical Support, Communications International Group (Part-time)

Supported day-to-day operations at a busy publisher by troubleshooting PC/OSX and hardware issues; managing Server 2003/Exchange system, and liaising with third-party contractors/suppliers. Delivered integrated OSX/Windows login system, WiFi installation,

deskside user training, onsite backup solution, and developed an in-house expenses reporting tool using Python/Django.

Software

flow-do

An experimental dependency based todo list/project planning tool, inspired by Sankey diagrams, written in Javascript/HTML.

<https://github.com/greenape/flow-do>

GEM Utils

A small collection of python utilities for working with the Gaussian emulation machines, and interfacing with FORTRAN95 emulators.

<https://github.com/greenape/gem-module>

PBS-Bullet

A python module for monitoring, reporting, and control of code runs in HPC environments, with Pushbullet integration.

https://github.com/greenape/pbs_bullet

SSCC Temporal Difference Simulator

A Java simulator for the extended Temporal Difference model of associative conditioning, with GUI.

<https://github.com/cal-r/sscctd>

Temporal Difference Simulator

A Java simulator for the Temporal Difference model of associative conditioning, with GUI.

<https://github.com/cal-r/td>

Publications

Gray, J., Bijak, J., & Bullock, S. (2016). Deciding to Disclose: A Decision Theoretic Agent Model of Pregnancy and Alcohol Misuse. In A. Grow & J. Van Bavel (Eds.), *Agent-Based Modelling in Population Studies* (pp. 301–340). Dordrecht: Springer.

E Mondragón, J Gray , E Alonso, C Bonardi, D Jennings. SSCC TD: A Serial and Simultaneous Configural-Cue Compound Stimuli Representation for Temporal Difference Learning. *PLoS ONE* 9 (7), e102469

E Mondragón, J Gray , E Alonso. A complete serial compound temporal difference simulator for compound stimuli, configural cues and context representation. *Neuroinformatics* 11 (2), 259-261

E Mondragón, E Alonso, A Fernández, J Gray . An extension of the Rescorla and Wagner Simulator for context conditioning. *Computer methods and programs in biomedicine* 110 (2), 226-230

Talks

2015

The Risky Business of Asking for Help: an ABM of unmet need in older adults (BSPS, SCCS)
(<https://www.youtube.com/watch?v=b0hZUPGmj48>)

Deciding to Disclose: Pregnancy & Alcohol Misuse (IC²S²)

2014

Decision Making in ABM: Agents with Agency (MPIDR Rostock, invited talk)

Deciding to Disclose: Pregnancy & Alcohol Misuse (SCCS)

Interests

Interests include juggling, origami, cycling, volunteering, baking, and occasional extreme sports (performed a 13,000' solo skydive; raising £750 for Marie Curie Cancer Care).

I am also interested in software development – for example, in 2009 I developed BikeRoute, a GPL'd bicycle navigation app for the Android mobile platform developed in Java and using PHP to interact with third party APIs, which, although now defunct, reached 37.5K users. I am also an occasional participant in Kaggle contests, primarily to explore applying Deep Learning techniques to large datasets, and enjoy trying out new programming languages.

References

Available on request.