

ALEXANDER JAMES HOLYOAKE

Address:	43 Lock Crescent Kidlington OX5 1HD, UK	Email:	ajholyoake@gmail.com	Date of Birth:	07/08/1985
		Tel:	+44 (0) 7979752339	Nationality:	British
		GitHub:	ajholyoake		

RELEVANT EXPERIENCE

2014 – 2016	Race Strategist at Mercedes F1 Team Data Science; Developer; Replace spreadsheets with rigorous inference and automated python system; .NET library development for data structuring; web UI development for easy deployment; rapid, high pressure decision making; .NET Monte Carlo Simulation
2012 – 2014	Performance Analyst at Caterham F1 Data Science; Lead developer in small group for Python and MATLAB tools with web interfaces for post session analysis
2007 – 2011	Experimental Ph.D. in Applied Mathematics Data analysis; Windows, Bash, MATLAB, C++, C experience to automate data collection; PIV; Reverse engineering serial protocol for instrumentation; Hardware development for data acquisition
2009 – 2011	Formula Student Working with a large team in very high pressure environment; Website development; Manage and encourage team; Sponsor liaison; Constructed large proportion of the car; Custom Software simulation with Bash / python interface to optimisation routines
2005 – 2010	Gentoo Used as main system including all packages compiled from source, kernel maintenance etc (for fun)

EDUCATION

2013 – 2015	Various Machine Learning Courses Coursera, Cambridge Coding Academy Workshop, Cranfield Operational Research
2007 – 2011	Ph.D. in Granular Dynamics Department of Applied Mathematics and Theoretical Physics & Trinity College, University of Cambridge
2006 – 2007	Masters Degree in Mathematics Trinity College, Cambridge
2005 – 2007	Certificate and Diploma in Modern Greek Trinity College, Cambridge; Scholarship
2003 – 2006	First Class B.A. (Hons) in Mathematics Trinity College, Cambridge; Scholarship for exceptional performance; Heilbronn Prize
2002 – 2003	Sixth Term Examination Papers 2 and 3 (Grade S - outstanding)
2001 – 2003	6 A levels and 1 AS level all grade A
1996 – 2001	14 GCSEs 11 A* including English and German

COMMUNICATION

2014 – 2016	Race Strategy Briefings Lead briefing to team owners, drivers and Mercedes board throughout race weekend
2010 – 2016	Software Liaison Finding solutions between strategy developers, IT & infrastructure, software group and third party software providers
2011	Workplace Coffee Intranet site to centralize coffee ordering and encourage isolated departments to interact
2010 – 2011	Mathematicians' Coffee Raised money to organise space for informal discussions in Maths department as inter group communication was very poor
2008 – 2011	Supervisor for Undergraduate Mathematics Three special commendations for quality of teaching from leader of programme based on student feedback
2008	Inner City Sixth Form Maths Mentoring Helped GCSE resit students

TECHNOLOGY

Python	Expert, systems programming, machine learning, extensive data analysis
Matlab + MEX (C Extensions)	Expert; data processing, image processing, calibration routines and non-linear PDE solver (finite volume and spectral)
HTML, CSS, Javascript	Proficient; Experience with express, templating engines, REST interfaces
C / C++ (Linux and Windows)	Proficient; data acquisition and time critical Matlab routines
SQL	Proficient; MS-SQL, Postgres, MySQL, SQLite
.NET	Expert; Core track data processing library, implementations of mathematical algorithms for use in other components
Java	Beginner; Basic Android development. Computational Fluid Dynamics Post-Processing routines
Go	Beginner; Hobby projects to play with concurrency features
Office Suite & VBA	Proficient
BASH	Proficient
L^AT_EX	Proficient
Operating systems	Excellent knowledge of using and administrating Linux systems (Gentoo and Ubuntu) and Windows; also proficient with OSX and cursory knowledge of XCode

PROJECTS

Embedded GPS Logger github.com/ajholyoake/adaloggergps	Embedded C project to log GPS data on an Pi Zero to an SD card to study velocity, acceleration and altitude data for a dirt bike expedition
Intranet Coffee Store github.com/ajholyoake/coffee	Node.js, express, html, IIS bootstrap project to centralize coffee ordering and to compile metrics
Online GPS Tracker github.com/ajholyoake/spot_tracker	Python (Flask), Javascript, HTML page to update family and friends of location via a satellite tracker
Graph Theory Animation github.com/ajholyoake/percolator	Javascript, HTML single page for illustrating the concept of percolation in graph theory
Home Automation	Developing software to Raspberry Pi and The Next Chip for lighting and audio and automating home brewing

OTHER SKILLS AND INTERESTS

Physical Hacking	Complete renovation and construction of a house; extreme bike maintenance; welding; car maintenance; barbequeue design and manufacture; growing vegetables
Languages	Greek (degree level), German (intermediate), Spanish (intermediate)
Driving	Full driving licence (inc. motorcycles)