Hari Jackson

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Passionate technologist with a demonstrated history of building effective solutions to conceptually-tricky problems

EDUCATION

Cambridge University
2015-19 · MPhil, PhD
Scientific Computing (Distinction)

Oxford University
2010-14 · BA, MMath
Maths (Double First)

Bedford School
2006-10 · GCSE, GCE, IB
Top grade in every subject

CERTIFICATIONS

AWS
Associate Developer

CFA
Level 1 (top band in all topics)

GRE
Quantitative 170/170
Non-Verbal 167/170
Mathematics 870, 91%

COMPUTING

Languages
Python · C++ · Bash · Node.js

Cloud Platforms
AWS · GCP

Specializations
automation · NLP · computer vision · data processing · HPC · microservices · visualization

Operating Systems
Linux · macOS · Windows

LINKS

haranjackson.com
github.com/haranjackson
linkedin.com/in/haranjackson
numericam.dev
calendly.com/haranjackson

EMPLOYMENT

techspert.io · CTO / Chief Architect
Oct 2017 - Now
- Designing company's tech strategy
- Overseeing technical aspects of implementation
- Liaising with investors and other stakeholders
- Overseeing tech hires

Owlstone · Data Analyst
Feb 2015 - Sep 2015
- Analysed data from LuCID project
- Made visualisation software
- Invented new method for extracting noise & signal
- Trained in machine learning at Cavendish Lab, Cambridge

OTHER WORK

Enterprise
2017 - Now · NumeriCAM
- Ltd for performing consultancy work
2017 - 2018 · Arbivore
- Automated cryptocurrency arbitrage
2013 - 2017 · Physical Education Clothing
- Design & sale of college-branded clothing

Contracts
1 week · Cambridge Multiphysics
- Web interface with authentication and backend logic
1 month · Double Precision Consultancy
- Compute resources on AWS and Rescale
2 months · Cambridge Cancer Genomics
- Backend infrastructure on AWS
4 months · Biotechspert
- Automated search, web scraping, data analysis, and ranking algorithms
3 months · Cambridge Numerical Solutions
- 3D visualisation software for detonation simulations
5 months · Owlstone
- Patient management and data manipulation software

Placements
1 month · G Research
- Predicting order book movements with machine learning
2 months · Oxford Asset Management
- Analytical solutions & genetic algos for portfolio hedging
5 months · Inst of Bioinformatics & Applied Biotech
- New method to determine genetic distances between DNA sequences
2 months · Gulbenkian Science Inst
- Genetic population size simulators on large HPC platforms
2 months · Roxar
- New solution method for linear systems in oil reservoir simulation

AWARDS

Cambridge University
- Senior Scholarship
- Leathersellers Scholarship
- ED Davies Scholarship
- Graduate Research Award
- Graduate Tutors Prize
- Full MPhil & PhD Funding

Oxford University
- Academic Scholarship
- Li & Fung Scholarship
- Undergrad Research Award
- College Prize
- College Book Prize
- De Unger Academic Fund

Bedford School
- Academic Scholarship
- Headmaster's Award
- Talalay Science Prize

COURSES

HPC Autumn Academy, 2015
Mathematics Institute, Cam.

MPI & OpenMP, 2014
Advanced Research Computing, Ox.

REVIEWING

Journal of Computational Physics
Elsevier

The Big Brain Revolution
Michelle Tempest

Grant Reviewer
Czech Science Foundation

OPEN-SOURCE SOFTWARE

GitHub Gists: Python, Bash, YAML
git.io/JvDVv Useful scripts and IaC templates

PyPDE: Python, C++
pypde.rtfd.io Solve any system of hyperbolic/parabolic PDEs

vscode-docker-ipython: JavaScript
git.io/JvDVU Develop interactively with IPython, running in a Docker container

ADER: Python
pypi.org/project/ADER Solve any 1st-order hyperbolic system of PDEs

Julia-WENO: Julia
git.io/JvLlY WENO reconstruction algorithm, of any order of accuracy

Euler1D: C++
git.io/JvDVW 1st and 2nd order methods for solving 1D Euler equations

GaussianDeconvolution: Python
git.io/JvDV1 Separating overlapping, normally-distributed signals

ProjectionMethod: C++
git.io/JvDVM Chorin's Projection Method

NewtonKrylov: C++, Python
git.io/JvDVD Newton-Krylov algorithm

LGMRES: C++, Python
git.io/JvDVy LGMRES algorithm

LegendreGauss: C++
git.io/JvDV7 Legendre-Gauss nodes and weights on [-1,1]

nwalign2: MATLAB
git.io/JvDV5 nwalign modified to require linear (not quadratic) space

seqpdist2: MATLAB
git.io/JvDVF Extended seqpdist

PUBLICATIONS

A unified Eulerian framework for multimaterial continuum mechanics
Journal of Computational Physics

A numerical scheme for non-newtonian fluids and plastic solids...
Journal of Computational Physics

The Montecinos-Balsara ADER-FV polynomial basis...
Computers & Fluids

A fast numerical scheme for the GPR model of continuum mechanics
Journal of Computational Physics

On the eigenvalues of the ADER-WENO Galerkin predictor
Journal of Computational Physics

A two-level variant of additive Schwarz preconditioning...
arXiv