

John Muddle

POSITION

6-2047 rue Montcalm, Montréal, Québec, Canada, H2L 3H8
British Citizen - Open Work Permit

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Education

Udacity

[Oxford, UK and Montreal, Canada](#)

DATA ANALYST NANODEGREE

Nov. 2015 - Nov. 2016

- Explored datasets using NumPy and Pandas
- Data wrangling with MongoDB and SQLite
- Exploratory data analysis with R
- Utilized machine learning algorithms to determine fraud
- Visualized data using d3.js
- Designed an A/B test to determine the impact of an additional prompt on a website

University of Southampton, School of Mathematics

[Southampton, UK](#)

PH.D. IN APPLIED MATHEMATICS, GENERAL RELATIVITY GROUP

Sep. 2010 - Sep. 2014

- Developed an object-oriented Fortran Finite-Volume code for solving systems of nonlinear partial differential equations (PDEs)
- Utilized level set and ghost fluid methods to join different systems of PDEs including Ideal Magnetohydrodynamics (MHD)
- Results show a new method of angular momentum distribution, which could lead to changes in the collapse time of neutron star binaries
- New method allows for a proper treatment of the stellar surface for the first time

University of Southampton, School of Physics

[Southampton, UK](#)

MASTER OF PHYSICS WITH MATHEMATICS (MPHYS) - FIRST CLASS (HONS)

Sep. 2006 - Jun. 2010

- 4-year degree focused on Relativity, PDEs and Quantum Mechanics

Uckfield Community Technology College

[Uckfield, UK](#)

A-LEVELS

Sep. 2003 - Jun. 2005

- Biology A-Level (B), Mathematics A-Level (A), Physics A-Level (A)
- Computing As-Level (A), Further Mathematics As-Level (A)

Skills

Programming	Advanced: Python, Fortran 2003/8, Moderate: MATLAB, LaTeX, HTML, Beginner: Javascript, R, C/C++, VBA
Version Control and Integration	Git, SVN, Github, Bitbucket, Travis
Languages	Native: English, Beginner: French, German
Operating Systems	OS X, Debian Based Linux, Windows
Databases	SQLite, MongoDB, Postgresql
Mathematics Software	Maple, Mathematica, SymPy
Office Software	Excel, Word, Access, Outlook
Debugging	Valgrind, GDB, PDB

Work Experience

John Muddle Consulting

[Montreal, Canada](#)

FREELANCE CONSULTANT

Sep. 2016 - PRESENT

- Updated NAG's Python Wrappers to be compatible with its Mark 26 C Library
- Developed new Python examples and technical marketing material
- Managed and collaborated with NAG staff during development
- Provided support and Python examples for customers
- Tutored and trained new employees on version control and unit testing
- Provided advice on commercial and technical decisions

The Numerical Algorithms Group Ltd. (NAG)

[Oxford, UK](#)

TECHNICAL SALES SUPPORT ENGINEER

Mar. 2015 - Sep. 2016

- Sales account manager for Africa, Asia, Eastern Europe, Italy, Oceania, South America and Spain
- Developed new technical marketing material in Python and Excel/VBA
- Streamlined sales pipeline reporting
- Helped to develop new processes for leads and opportunity tracking
- Provided public and in-house training to financial institutions and universities

University of Southampton, Faculty of Social and Human Sciences

EXAM INVIGILATOR

- Invigilated exams for students who qualified for extra time

[Southampton, UK](#)

Jan. 2014 - Jun. 2014

University of Southampton, School of Physics

VOLUNTEER STUDENT MENTOR

- Volunteered to help prepare undergraduate students for their exams in one-to-one and group sessions

[Southampton, UK](#)

Sep. 2011 - Jun. 2013

University of Southampton, School of Mathematics

COURSE DEMONSTRATOR

- Supervised problem classes for undergraduate Mathematics and Physics students
- Demonstrated computer labs (MATLAB) and marked coursework for undergraduate and masters students

[Southampton, UK](#)

Sep. 2006 - Jun. 2014

Saints Events Management

WAITER

- Worked as a waiter at a local football stadium in hospitality suites

[Southampton, UK](#)

Sep. 2009 - Jul. 2010 (Part Time)

Handpicked Hotels

FOOD AND BEVERAGE ASSISTANT

- Worked as a waiter at a local hotel with responsibility for managing a team of waiters at weddings and private functions
- Additional experience in the Kitchen, Bar and Restaurant

[Buxted, UK](#)

Sep. 2004 - Jun. 2010 (Part Time)

Coney Brother Dry Construction Ltd.

PART-TIME OFFICE ASSISTANT

- Estimated costs for tenders and calculated wages for large scale housing projects

[Golden Cross, UK](#)

Jun. 2004 - Jun. 2007 (Part Time)

Extracurricular Activity

University of Southampton Physics Society (PhySoc)

JOINT SOCIAL SECRETARY

- Introduced alternating non-alcoholic/alcoholic socials and produced a calendar of events for first year students

[Southampton, UK](#)

Apr. 2008 - Apr. 2009

Honors & Awards

2016 **Best Ph.D. Thesis in Gravitational Physics awarded by The Institute of Physics**

[Nottingham, UK](#)

2008 **Best Physics Society for Media and Communication awarded by The Institute of Physics**

[London, UK](#)

Presentations and Posters

16th British Gravity Meeting - Invited Speaker

ADVANCED NUMERICAL METHODS FOR NEUTRON STAR INTERFACES

[University of Nottingham, UK](#)

Apr. 2016

14th British Gravity Meeting - Speaker

MULTI-COMPONENT NUMERICAL METHODS APPLIED TO A NEUTRON STAR'S SURFACE

[University of Cambridge, UK](#)

Apr. 2014

General Relativity 20 / Amaldi 10 - Poster Presentation

MULTI-COMPONENT MODEL OF NEUTRON STARS WITH MAGNETIC FIELDS

[University of Warsaw, Poland](#)

Jul. 2013

13th British Gravity Meeting - Speaker

MULTI-COMPONENT NUMERICAL METHODS WITH MAGNETIC FIELDS

[University of Sheffield, UK](#)

Apr. 2013

Blog Posts

NAG and Continuum Analytics Partner to Provide Readily Accessible Numerical Algorithms

[HTTPS://WWW.CONTINUUM.IO/BLOG/DEVELOPER-BLOG/NAG-AND-CONTINUUM-ANALYTICS-PARTNER](https://www.continuum.io/blog/developer-blog/nag-and-continuum-analytics-partner)

[Anaconda Development Blog](#)

Jun. 2016

- Wrote a technical blog and Jupyter Notebook example on how to call the NAG4PY wrappers

Changepoint Analysis using MongoDB and NAG4PY

[HTTP://BLOG.NAG.COM/2016/02/CHANGEPOINT-ANALYSIS-USING-MONGODB-AND.HTML](http://blog.nag.com/2016/02/changepoint-analysis-using-mongodb-and.html)

[NAG Blog](#)

Feb. 2016

- Demonstrated new functionality in the NAG Library for detecting changepoints in time series data

Travelling Rugby Fan Problem

[HTTP://BLOG.NAG.COM/2015/10/TRAVELLING-RUGBY-FAN-PROBLEM.HTML](http://blog.nag.com/2015/10/travelling-rugby-fan-problem.html)

[NAG Blog](#)

Oct. 2015

- Utilized a Travelling Salesman solver to calculate the shortest distance between the stadiums of the 2015 Rugby World Cup