

John Alexander Harston



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EDUCATION

- 2012 - 2016
- Biomedical Sciences (Hons) Neuroscience BSc, University of Edinburgh
Second Class Honours, Division I
First Class Honours in Dissertation - "Kinematic Analysis of Mouse Forelimb Movement"

EXPERIENCE

- 2016 - present
- Research Associate, Duguid Lab, University of Edinburgh
Studying functions of motor cortex through design and development of novel behavioural paradigms. My job involves Python, Arduino and Android development to build low-cost behavioural modules for rodents, along with integrating machine vision applications to automate rodent behavioural analysis.
- 2015 - 2016
- Intern, Duguid Lab, University of Edinburgh
Developed novel semi-automated motion-tracking tools for filtering and reconstruction of mouse forelimb movement to understand the role of primary motor cortex in initiating and controlling skilled motor actions.
- 2011
- Intern, Werner Reichardt Centre for Neuroscience, University of Tübingen
Worked with a researcher investigating epilepsy using foetal magnetoencephalography.
- 2008 - present
- Developer & Web Designer
5 years experience of development and web design work, in Python and Java.

RESEARCH SKILLS

- Microneurosurgical techniques in rodents e.g. stereotactic headplate surgery to facilitate in-vivo electrophysiological recording and head-fixed behavioural training (1 year experience).
- Proficiency in Python, with experience of a range of scientific libraries e.g. Matplotlib, SciPy, Numpy, Pandas (5 years experience).
- Experience with OpenCV, Scikit-learn and Keras (~1 year experience).
- Experience in Java and Android development (3 years experience).
- Experience using Linux systems, server management, Bash scripting (8 years experience).
- Blender and 2D motion tracking systems experience - development of novel tools for tracking mouse forelimb movement and filtering skilled behaviour, alongside deploying kinematic tracking algorithms and writing novel code to extract and quantify rodent behavioural data from high-frame-rate video (2 years experience).
- Arduino development (Processing, C) and circuit design, electronics knowledge (3 years experience).

AWARDS

Major League Hacking: Hack The Burgh 2017 Bloomberg Challenge - 1st Prize

Along with two others I developed a video generation web app in 24 hours that won first place in the Bloomberg Coding Challenge at the 2017 'Hack The Burgh' competition.

Black Hat USA Student Scholarship

In 2015 and 2016 I won academic scholarships with complimentary \$2500 passes to attend the highly regarded computer security conferences Black Hat USA in Las Vegas, and Black Hat Europe in Amsterdam. I attended talks and received training from leaders in the field to improve my penetration testing skillset.

MISCELLANEOUS

Adobe Creative Suite

Regular user of Photoshop, Indesign, Illustrator, and Premiere Pro for 8 years.

Languages

Semi-fluent in German and Bulgarian.

Diploma of the London College of Music

OTHER WORK & ROLES

President, Edinburgh University Biology Society
2015 - 2016

Editor-in-Chief, The Student Newspaper
2014 - 2015

Volunteer, Centre for Children with Profound and Multiple Learning Disabilities
2010-2012