James A. Booth

CONTACT INFORMATION

Mobile: 07912369997 jamesabooth.com
E-mail: jabooth@gmail.com github.com/jabooth

RECENT PUBLICATIONS

3D Face Morphable Models "In-the-Wild" – (spotlight presentation) – *J. Booth, E. Antonakos, S. Ploumpis, G. Trigeorgis, Y. Panagakis, S. Zafeiriou, Proceedings of IEEE Intl Conf. on Computer Vision and Pattern Recognition (CVPR 2017) (arXiv:1701.05360)*

Large scale 3D Morphable Models – *J. Booth, A. Roussos, A. Ponniah, D. Dunaway, S. Zafeiriou, International Journal of Computer Vision (IJCV), under revision*

A 3D Morphable Model learnt from 10,000 faces – (spotlight presentation) – *J. Booth, A. Roussos, S. Zafeiriou, A. Ponniah, D. Dunaway, Proceedings of IEEE Intl Conf. on Computer Vision and Pattern Recognition (CVPR 2016)*

Menpo: A Comprehensive Platform for Parametric Image Alignment and Visual Deformable Models – *J. Alabort-i-Medina, E. Antonakos, J. Booth, P. Snape and S. Zafeiriou, Proceedings of the ACM International Conference on Multimedia, 679-682*

EDUCATION

PhD Imperial College London **October 2013 -**

- Investigating the construction and usage of massive-scale 3D Morphable Models, facial models that decompose an arbitrary face into bases of shape, texture, and expression
- Qualcomm Innovation Fellowship Overall European Winner 2015
- EPSRC DTA Scholarship
- A core developer of *The Menpo Project*, a Python platform to facilitate the construction and fitting of statistical models on images and 3D meshes. Includes implementations of Active Appearance Models, Constrained Local Models, the Supervised Decent Method and 3D Morphable Model fitting. Menpo was a finalist in the ACM Multimedia 2014 Open Source Software Competition.
- One of *Menpo*'s goals is to promote high software engineering standards in the academic community by following best practice from industry. Responsible for teaching key skills ranging from software design patterns to effective version control.

MSc, Computing Science, Distinction Imperial College London **2011 - 2012**

- Distinguished Individual Project 86% – *Constructing 3D Morphable Models Capable of Expressing Emotion*
- The Philips Group Project Prize in Computing Science – *Doctor Today - A Next Generation Medical Support System*
- Examinations 78% – including Graphics (93%) Algorithms (79%) and Logic (78%)
- Imperial College Student Opportunities Fund Masters Award
- Grundy Educational Trust Award
- Ogden Trust Scholarship

BSc, Physics, First Class Honours (Av. 77%) Imperial College London **2008 - 2011**

- Final year project 84% – *Modelling Evolution - A Simulation Of Natural Selection*
- Ogden Trust Scholarship
- Institute of Physics Bursary

A-Levels (5 A's) NEW College, Pontefract **2006 - 2008**

Physics 96% | Maths 95% | Further Maths 91% | Chemistry 92% | General Studies 90%

- Outstanding Student of the Year (academic achievement & leadership of student body)

GCSEs (11 A*'s) The King's School, Pontefract **2001 - 2006**

- No. 1 student in UK - Applied ICT (100%)
- Top 5 student in UK - Mathematics (99%)

PERSONAL PROJECTS

Landmarker.io, a 3D mesh annotation web application **October 2013 -**

- Allows anyone with a browser to manually annotate points on meshes and images, enabling the creation of data critial for deformable model construction
- WebGL client written in Typescript — server written using the Flask microframework

Technical Skills

Expertise with Python and modern Javascript/Typescript. Experience in OpenGL, Swift, C, C++, Objective C, Java, and Matlab. Over 1,400 open source contributions in the last year.

Work Experience

Longbow Assessments **December 2015 -**

Co-founder, Technical lead

- Profitable side venture founded with one other focused on providing bespoke online assessments.
- Solely responsible for designing and implementing a full-stack web application. Key technologies: React/Redux front-end, Node/Typescript/PostgreSQL back-end.
- Platform is live with paying customers — over 700 candidates have taken assessments.

Craniofacial Unit, Great Ormond Street Hospital **June 2013 -**

Honorary Group Member

- Joined the group as part of a collaboration between Great Ormond Street and iBUG to investigate the possibility of using statistical models of faces to help guide surgeons performing corrective surgery on children with facial deformities
- Steward of MEIN3D, a database of 12,000 3D facial meshes
- Future work will involve investigating and quantifying the differences that age, gender, ethnicity, and medical conditions play in the appearance of the human face

iBUG, Imperial College London **October 2012 - October 2013**

Research Assistant

- Explored a novel approach for establishing dense correspondence between 3D meshes of emotive faces using surface geodesics
- Co-founded *The Menpo Project*
- Helped run an extensive 3D recording experiment looking to capture spontaneous human emotion

Visionmetric, University of Kent **June - August 2012**

Research Intern

- Investigated the possibility of accurately recovering full RGB colour information from black and white facial images through the application of a Principal Component Analysis based statistical model

Simply Learning Tuition, London **2010 - 2012**

Personal Academic Tutor

- Tutored students aged from 11 to 18 in a range of subjects

Nanoscale Science & Technology Group, Durham University **June - August 2011**

Research Intern

- Independently ran and maintained an ultra high vacuum surface scattering experiment

Positions of Responsibility

Imperial College: *Computing PhD Representative* (elected) **2013 -**

Imperial College: *Physics Year Representative* (elected) **2008 - 2010**

NEW College: *Student President and College Governor* (elected) **2007 - 2008**
Brought students' issues to staff & represented NEW College in the wider community. Led organisation of student events and charity fundraisers

The King's School: *Deputy Head Boy* (elected) & *Athletics Captain* **2006**

Interests & Achievements

Sports: Duke of Edinburgh Gold Award & all-time high school 200m record holder. Recently began competing in Triathalons. Getting faster, slowly but surely.
Music: Competed at numerous national brass championships playing Flugel Horn with *Crofton Silver Band* over four years. Achieved Grade 6 Flugel Horn & Grade 5 Musical Theory
Languages: A* GCSE French & basic German
Driving: Full clean UK licence