

# Theodore BARFOOT

## Clinical Scientist | MRI Physics

@ theo.barfoot@gmail.com 📍 London, UK

☎ +44 7530 282627 in linkedin.com

🔗 HCPC Professional Registration



## PROFESSIONAL EXPERIENCE

Current September 2018	<b>Clinical Scientist - MRI Physics and Data Science, THE ROYAL MARSDEN HOSPITAL, NHS</b> <ul style="list-style-type: none"><li>&gt; Clinical Scientist specialising in dataset curation for deep learning in radiology</li><li>&gt; Working on NIHR funded clinical trial Machine Learning in Myeloma Response (<a href="#">MALIMAR</a>)</li><li>&gt; Working in multi-disciplinary team in both clinical and academic environments at The Royal Marsden Hospital, Imperial College Healthcare Trust, Institute of Cancer Research and Imperial College London</li><li>&gt; Responsible for collection, allocation, cleaning, labelling, segmentation and delivery of 500+ Whole Body MRI scans to machine learning experts at Imperial College</li><li>&gt; Experience with data extraction from Picture Archiving and Communication Systems (PACS) and Electronic Patient Records (EPR)</li><li>&gt; Experience with machine learning and deep learning in Python</li><li>&gt; Developed automated data curation pipeline in Python</li><li>&gt; Developed tools to facilitate radiologists segmenting and labeling MRI scans for disease classification</li></ul> <div><span>Data Science</span> <span>Data Curation</span> <span>Python</span> <span>Git</span> <span>DICOM</span> <span>Image Processing</span> <span>XNAT</span> <span>Data Governance</span> <span>MRI Physics</span></div>
September 2018 September 2015	<b>Trainee Clinical Scientist - Medical Physics, KING'S COLLEGE HOSPITAL, NHS</b> <ul style="list-style-type: none"><li>&gt; Scientist Training Programme with NHS in Medical Physics</li><li>&gt; Placements in radiation safety, radiotherapy physics, imaging with ionising radiation and imaging with non-ionising radiation</li><li>&gt; Worked at King's College Hospital, Guy's and St Thomas' Hospital and The Royal Marsden Hospital</li><li>&gt; Specialised in magnetic resonance physics and ultrasound physics</li></ul> <div><span>Medical Physics</span> <span>MRI</span> <span>US</span> <span>CT</span> <span>SPECT</span> <span>PET</span> <span>x-ray</span> <span>radiotherapy</span> <span>Data Governance</span> <span>MATLAB</span></div>

## EDUCATION

July 2018 September 2015	<b>MSc Clinical Science (Medical Physics), KING'S COLLEGE LONDON - Distinction (1st)</b> <ul style="list-style-type: none"><li>&gt; Radiation Physics for Imaging and Radiotherapy - 74%</li><li>&gt; Healthcare Science and Research Methods - 91%</li><li>&gt; Medical Imaging with Non-Ionising Radiation - 72%</li><li>&gt; Further Medical Imaging with Non-Ionising Radiation - 72%</li><li>&gt; Research Project   <a href="#">Motion Correct for T1-Mapping</a> - 70%</li></ul>
July 2015 September 2011	<b>MEng Biomedical Engineering, IMPERIAL COLLEGE LONDON - Upper Second (2:1)</b> <ul style="list-style-type: none"><li>&gt; Final Year Project : "Assessment of collagen sheets as porous elastomeric membranes for use in microfluidic flow stretch chips to characterise endothelial cell transport properties - 67%</li></ul>

## SCIENTIFIC COMMUNICATIONS

ESMRMB	<b>The European Society for Magnetic Resonance in Medicine and Biology - Rotterdam 2019</b> <a href="#">Abstract</a> accepted with <a href="#">poster</a> and <a href="#">presentation</a> on "Big Data Curation for Deep Learning in MRI"
BC-ISMRRM	<b>British Chapter of The International Society for Magnetic Resonance in Medicine - Sheffield 2019</b> <a href="#">Abstract</a> accepted with <a href="#">poster</a> on "Big Data Curation for Deep Learning in MRI"
IPEM	<b>Institute of Physics and Engineering in Medicine - MRI Safety Update - York 2017</b> <a href="#">Presentation</a> on Comparison of MRI Screening Policies for Metallic Intra-Orbital Foreign Bodies

## SPEAKING ENGAGEMENTS

---

- 2020 European Society of Radiology (ESR) - [ESR Connect Season 2](#) - Educational web video series on use cases for Artificial Intelligence in Radiology. Presenting "Theo's Technical Top Tips for Machine Learning in Radiology" about dataset identification, ethics, GDPR, anonymisation, curation, cleaning, storage, splitting, labelling and clinical validation, for a radiologist audience. Pre-recording in Vienna in November 2019 and live shows to be broadcast in January and February 2020.
- 2019 Delivered lecture titled "[Artificial Intelligence: Past Present and Prognosis](#)" for The Institute of Engineering and Technology in Malvern in December 2019.
- 2019 Chaired two sessions at The European Society of Magnetic Resonance in Medicine and Biology conference in Rotterdam in 2019 on "Clinical Impacts and Needs of Machine Learning" and "Segmentation and Classification by Machine Learning".
- 2015 Delivered Dragon's Den style power pitch to board of investors at finals of McKinsey Venture Academy

## EXTRACURRICULAR

---

- > Recently submerged into the world of underwater hockey
- > Vocal Percussionist (Beatboxer) for Imperial College a cappella group The Techtonics from 2013-2018. Winners of the International Championships of Collegiate A Cappella 2016 Finals in New York. Toured with group to the West Coast, East Coast and Deep South of USA as well as Hong Kong.
- > Captain of swim team at highschool, qualified swimming teacher and life guard.
- > Keen snowboarder, found enjoying the Alps each year
- > Classical guitar player

## REFERENCES

---

Available upon request