T. Campbell **Arnold**

Scientist | Engineer

linkedin.com/in/campbell-arnold @lofiMRI
radaccess.com campbellarnold.com
1-850-346-5593 campbell@radaccess.com
2705 McKean St., 19145, Philadelphia, PA, USA

Highly motivated medical imaging AI leader with 3 years experience in end-to-end product development and clinical deployment of advanced MR/PET algorithms. Proven ability to lead cross-functional engineering teams, navigate regulatory pathways (FDA 510(k), EU MDR), and drive clinical translation through strong collaboration with academic physicians and private practices. Seeking to leverage expertise in deep learning (7 years), medical imaging (10+ years), and regulatory compliance (3 years) to advance innovative AI solutions in a leadership role.

Education

2019-2022 **University of Pennsylvania** - Bioengineering PhD
- Advisors: Dr. Brian Litt, Dr. Joel Stein

2017-2019 **Perelman School of Medicine** - Preclinical Medical School - HHMI Interface Scholar
- Advisor: Dr. Jim Gee

2011-2014 **Florida State University** - Biology BS, Mathematics BS
- Advisors: Dr. Wen Li, Dr. Dennis E. Slice

Research Experience

Present – December 2022 | **Research Scientist, (Remote),** Subtle Medical
Advisors: Ajit Shankaranarayanan, Ryan Chamberlain
- Managed end-to-end product development and clinical deployment of medical imaging AI, with experience in MR/PET image enhancement, synthesis, contrast enhancement, and data harmonization.
- Led team of 5 engineers on product development for large private practice and industry partners.
- Represented R&D during management review, product org strategic planning, and tracked R&D KPIs.
- Demonstrated strong scientific communication through lead authorship of 4 technical white papers and delivery of 30+ oral presentations at top conferences (RSNA, ISMRM, ASNR).
- Oversaw rigorous independent validation of model training and performance for 4 medical imaging AI product lines, ensuring clinical accuracy and reliability.
- Cultivated and leveraged a network of radiologists to recruit readers for clinical studies, gather critical product feedback, and collaborate on scientific publications.
- Spearheaded R&D regulatory support for 4 FDA 510(k) and 2 EU MDR product clearances, with in-depth knowledge of FDA PCCP, EU CER, and ISO standards.

end-to-end product development | DICOM | python | pytorch | AWS | FDA 510K | EU MDR

November 2022 – January 2019 | **Graduate Student, University of Pennsylvania,** Center for Neuroengineering and Therapeutics
Advisors: Brian Litt, Joel Stein
- Published 12 research papers (5 first author) in top journals (Radiology, JMRI, Brain, NeuroImage, MRI).
- Led development of AI image enhancement & segmentation algorithms with clinical collaborators.
- Validated clinical applications for a commercial low-field MRI system : Hyperfine
- Mentored 9 undergraduate students in teams of 2-3.

GCP | python | keras | tensorflow | jupyter notebook | antspyx | ANTs | ITK-SNAP

December 2018 – August 2017 | **HHMI Interface Scholar, Perelman School of Medicine,** Interface program
Advisor: James Gee
- Awarded T32 grant and completed preclinical medical school training.
- Collaborated in teams of 8 to solve medical case-studies.
- Engaged with clinicians in radiology, nuclear medicine, neurology, & emergency medicine.

Radiology | Diagnostic Ultrasound | Brain & Behavior | Gross Anatomy | Clinical Communication

Entrepreneurship

Present – August 2024 | **Founder, Managing-editor, Radiology Access,** radaccess.com
- Curated and produced bi-weekly newsletter, highlighting innovations in medical imaging access.
- Developed newsletter platform, cultivating an audience of radiologists and imaging researchers.

Teaching experience

Spring 2020 **Brain Computer Interfaces (Engineering)**, Teaching Assistant
- Taught signal processing, applied machine learning, and Matlab programming
- Instructor: Brian Litt, class size: 60

Fall 2018 **Medical Devices (Wharton)**, Teaching Assistant
- Analyzed medical device case studies on tech development, regulatory approval, and marketing
- Instructors: Matthew Grennan & Jeffery Solomon, class size: 30

Select Publications

Summary: 15 Publications, 6 first–author, 900+ citations, h–index = 12 *(Full Google Scholar)*

1. Lucas, A., **Arnold, T. C.**, ... Stein, J. M. (2025). Multi–contrast high–field quality image synthesis for portable low‐field MRI using generative adversarial networks and paired data. *Radiology*
2. **Arnold, T. C.**, ... Stein, J. M. (2023). Low–field MRI: Clinical promise and challenges. *Journal of Magnetic Resonance Imaging*.
3. **Arnold, T. C.**, ... Stein, J. M. (2022). Deep Learning–Based Automated Segmentation of Resection Cavities on Postsurgical Epilepsy MRI. *NeuroImage: Clinical*.
4. **Arnold, T. C.**, ... Stein, J. M. (2022). Portable, Low–Field Magnetic Resonance Imaging Sensitively Detects and Accurately Quantifies Multiple Sclerosis Lesions. In press at *NeuroImage: Clinical*.
5. **Arnold, T. C.**, ... Stein, J. M. (2022). Simulated Diagnostic Performance of Ultra–Low–Field MRI: Harnessing Open–Access Datasets to Evaluate Novel Devices. *Magnetic Resonance Imaging*.

Select Conference Talks

Summary: 30+ oral presentations since 2021, 4 invited talks.

1. AI Updates in Neuroradiology: Research, Validation, and Clinical Deployment. ASFNR 2025. (Invited).
2. Accelerating MRI Protocols Through Combined Image Enhancement and Image Synthesis. ASNR 2025.
3. A Novel Method for Synthesizing High–Resolution 3D FLAIR Brain MRI Based on Clinical 2D Images. RSNA 2024.
4. Artificial Intelligence for Nuclear Medicine: Faster, Safer, and Smarter. IEEE NPSS 2024. (Invited)
5. Deep–Learning–Based STIR Synthesis for Spine MRI with Variable T1 and T2 Slice Thickness. ASSR 2024.
6. Optimized Hanging Protocols and DICOM Metadata Harmonization Using Pixel–Based DL Models. RSNA 2023.
7. Deep–Learning Based Contrast Boosting Improves Lesion Visualization and Image Quality. RSNA 2023.
8. Sensitivity of low‐field MRI for multiple sclerosis lesions and brain atrophy. RSNA 2022.
9. Portable Low Field MRI: Outpatient Neuroimaging Applications. ISMRM–ISMRT 2022. (Invited).
10. Generalizability of brain segmentation algorithms trained on high–field MRI to low–field data. SIIM–CMIMI 2022.

Select Awards

1. 2026 Top 40 Radiology Resources, *The Imaging Wire*.
2. 2025 Power Pitch 1st Place, American Society of Functional Neuroradiology (ASFNR).
3. 2025 Best Scientific Paper Award, American Society of Spine Radiology (ASSR).
4. 2024 Top 10 Most Cited Papers, Journal of Magnetic Resonanace Imaging (JMRI).
5. 2024 Best Scientific Paper Award, Society for Imaging Informatics in Medicine (SIIM).
6. 2017–2019 Howard Hughes Medical Institute Interface Scholar, NIBIB ($147,500 value).
7. 2012 InNOLEvation Challenge Business Plan Competition, Jim Moran Entrepreneurship Institution, FSU ($150,000 value).

References

Ryan Chamberlain, PhD
Former Head of R&D, Subtle Medical
Data Science Manager, Deloitte
chamberlain.ryan@gmail.com
Email Preferred

Brian Litt, MD
Professor, Neurology & Bioengineering
University of Pennsylvania
littb@pennmedicine.upenn.edu
(215) 746-4850

Joel M. Stein, MD, PhD
Assistant Professor of Radiology
University of Pennsylvania
joel.m.stein@uphs.upenn.edu
(215) 485-2976