Curriculum vitae
Mateus A. Esmeraldo, M.D.

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Nationality: Brazil
DOB: 06/03/1997

Education

Neuroradiology Fellow (Incoming) – Stanford Health Care — **Jul 2027 – Jun 2029**
Stanford University School of Medicine, USA (Matched, NRMP 2026)

Pediatric Radiology Fellow (Current) – Stanford Health Care — **Jul 2026 – Present**
Stanford University School of Medicine, USA

Postdoctoral Research Fellow in Pediatric Neuroradiology — **Jul 2025 – Jun 2026**
Stanford University School of Medicine, USA

PhD Candidate in Radiology — **2022 – Present**
Computational algorithm for automated pattern recognition differentiating biliary and portal venous gas in computed tomography
Supervisor: Dr. Ellison F. Cardoso, M.D., Ph.D.
University of São Paulo (USP), Brazil

Visiting Scholarship Program Europe in Neuroradiology - ESOR — **Jul 2024 – Oct 2024**
Addenbrooke's Hospital, University of Cambridge, UK

Medical Residency in Radiology and Imaging Diagnosis — **Mar 2022 – Feb 2025**
University of São Paulo (USP), Brazil

Bachelor of Medicine - Medical Degree (M.D.) — **2016 – 2021**
Graduated with great honors (*Magna Cum Laude*)
Federal University of Ceará (UFC), Brazil

Work Experience

Attending Radiologist — **Mar 2025 – Jun 2025**
Albert Einstein Hospital – Emergency Department, São Paulo, Brazil
Reported CT and ultrasound examinations in the emergency setting

Radiologist — **Jan 2025 – Jun 2025**
InRad - ELSA Study, Clinics Hospital, University of São Paulo, Brazil
Reported brain MRI scans for a large-scale epidemiological study (ELSA)

Attending Radiologist — **Mar 2025 – Jun 2025**
InRad - Dept. of US, Clinics Hospital, University of São Paulo, Brazil
Performed transcranial Doppler and general ultrasonography imaging

Radiology Artificial Intelligence Consultant

Siemens Healthineers – *Radiology Assistant* Project — **Jun 2024 – Jun 2025**
Coordinated the medical team to enhance AI-driven report generation

Cognita – *Healthcare AI company*
Coordinated the radiologists' annotation team — **Apr 2025 – Jun 2025**
Authorized off-site consulting period as a Stanford Postdoctoral Scholar — **Oct 2025 – Dec 2025**

Further research expertise & certifications

Medical Certification

- **California Postgraduate Medical License** **2026**
- **ECFMG Certification and USMLE Steps 1, 2 and 3 (passed)** **2025**
- **Board-Certified in Radiology and Diagnostic Imaging (CBR – Brazil)** **2025**

Brain MRI Data Processing

- **Medical Imaging Analysis:** AI segmentation, AI model training, FreeSurfer, 3D Slicer
- **Cognitive Neuroimaging Skills Training (COGNESTICS)** **2024**
  MRC Cognition and Brain Sciences Unit, University of Cambridge
  Skills: morphometric MRI analysis, fMRI preprocessing/postprocessing, EEG analysis

Artificial Intelligence

- **Summer School on AI in Medicine, Cambridge, UK** **2024**
  van der Schaar Lab, University of Cambridge

Neuroscience **2019**

- **Pembroke-King's Summer Programme, Cambridge, UK**
  Completed courses in neuroscience and behavior (all coursework graded A): *Contemporary Issues in Neuroscience*; *From Brain to Behaviour*; *Behavioural Ecology of Animals and Humans*

Languages

- Proficient: English (OET and TEAP Certification)
- Native speaker: Portuguese
- Basic: Spanish (reading/listening; limited speaking/writing)

Patents

Automated Computational Algorithm for Differentiating Hepatic Portal Venous Gas from Biliary Gas on Computed Tomography **2025**
National Institute of Industrial Property (INPI), Brazil
Application No. [BR 10 2025 017086 8] | Patent pending, under examination

Peer Review Service

- ***Radiology: Artificial Intelligence*** **(RSNA)** **2026**
- ***Journal of Neural Engineering*** **(IOP Publishing)** **2026**
- ***Journal of Clinical Ultrasound*** **(Wiley)** **2026**
- ***Frontiers in Neurology*** **(Frontiers)** **2026**
- ***Frontiers in Nutrition*** **(Frontiers)** **2026**

Professional Memberships

- **American Society of Pediatric Neuroradiology (ASPNR)** **2026**
- **American Society of Neuroradiology (ASNR)** **2026**
- **Radiological Society of North America (RSNA)** **2026**

Publications

Peer-Reviewed Articles

Esmeraldo, M. A.*, Chambers, S.*, Moeremans, M., Halverson, M., Soares, B. P., Dahmoush, H., & Geraldo, A. F. (2026). Longitudinal Neuroimaging in Pediatric Coccidioidomycosis: Full Spectrum of Brain, Spine and Head and Neck Findings. *AJNR American Journal of Neuroradiology*, ajnr.A9556. Advance online publication. *Co-first authors, listed alphabetically in the published version.

Esmeraldo, M. A., Soares, B. P., Reis, E. P., Dahmoush, H., Bhandari, A., Campion, A. W., Sprenger, T., Skare, S., Zaharchuk, G., & Decker, J. H. (2026). A Comprehensive 2.5-Minute Brain MRI Protocol in the Pediatric Emergency Department: Diagnostic Evaluation of the Multicontrast NeuroMix Sequence. *AJNR American Journal of Neuroradiology*, ajnr.A9454. Advance online publication.

Esmeraldo, M. A., Chambers, S., Kravutske, Y., Reis, E. P., Kasprian, G., Geraldo, A. F., Gatidis, S., & Soares, B. P. (2026). Pipeline evaluation of a state-of-the-art AI algorithm for detection of focal cortical dysplasia: insights into potential failure sources. *Brain informatics*, 13(1), 13.

Esmeraldo, M.A., Melo E., Fritzen M., Braga K., Fernandes F., Chiovatto R., Ferreira P.S., Chioato E.D., Freeman C., Cavalanti A., Chammas, M.C. (2026). Update on Adult Transcranial Doppler, Gray-Scale, and Contrast-Enhanced Ultrasound*. RadioGraphics* (***Cover article),*** 46(4):e250182.

Esmeraldo, M. A., Chambers, S., Geraldo, A. F., Dahmoush, H. M., & Soares, B. P. (2026). Fetal dural sinus malformation: Prenatal diagnosis and follow-up with thrombus resolution and associated developmental venous anomalies. *Journal of Child Neurology*, 0(0).

Chambers, S., **Esmeraldo, M. A.**, Kravutske, Y., Haider, L., Kasprian, G., Geraldo, A. F., & Soares, B. P. (2026). Microcephaly with Simplified Gyral Pattern in Children: Quantitative Morphometric Assessment on Brain MRI and Correlation with Clinical Outcome. *AJNR American Journal of Neuroradiology.* Advance online publication.

Kravutske, Y., **Esmeraldo, M. A.**, Reis, E. P., Chambers, S., Haider, L., Kasprian, G., & Soares, B. P. (2026). Comprehensive segmentation of focal cortical dysplasia by combining surface-based and whole-brain MRI deep learning algorithms: a proof-of-concept study. *Biomedical physics & engineering express*, 12(1), 10.1088/2057-1976/ae3d3e.

Alvi, Z., Reis, E. P., **Esmeraldo, M. A.**, Shin, D., Banerjee, S., Dahmoush, H. M., Campion, A., Chambers, S., Kravutske, Y., Gatidis, S., & Soares, B. P. (2026). Image quality evaluation of neonatal brain magnetic resonance imaging using a deep learning reconstruction algorithm: A quantitative and multireader study using variable denoising levels at 3 tesla. *Journal of clinical imaging science*, 16, 29.

Christodoulou, R. C., Vamvouras, G., **Esmeraldo, M. A.**, Papageorgiou, P. S., Vassiliou, E., Solomou, E. E., Papageorgiou, S. G., & Georgiou, M. F. (2026). Calibrated and explainable multiparametric MRI radiomics for differentiating tumor positive disease from treatment-related changes in glioblastoma. *Frontiers in Oncology*, 16, 1890956.

Christodoulou, R. C., Vamvouras, G., **Esmeraldo, M. A.**, Papageorgiou, P. S., Vassiliou, E., Solomou, E. E., Papageorgiou, S. G., & Georgiou, M. F. (2026). Explainable MRI radiomics identifies a PTEN-associated imaging phenotype in adult gliomas. Frontiers in oncology, 16, 1900609.

Kravutske, Y., **Esmeraldo, M. A.**, Chambers, S., Dahmoush, H. M., Geraldo, A. F., Halverson, M., & Soares, B. P. (2025). Knobloch syndrome in childhood: Neuroradiological findings and clinical correlation. *Journal of Child Neurology,* 8830738261444228. Advance online publication.

Castilla, A. C., D'Amorim, I. de P., Wanderley, M. F. B., **Esmeraldo, M. A.**, Yoshida, A. R., Eigier, A. M., Sawamura, M. V. Y. (2025). External validation of an artificial intelligence triaging system for chest X-rays: A retrospective independent clinical study. *Diagnostics*, 15(22), 2899.

Povlow, M. R., **Esmeraldo, M. A.**, Dahmoush, H. M., Halverson, M. R., Barsh, G. R., & Soares, B. P. (2025). Prenatal Diagnosis of VLDLR-associated Cerebellar Hypoplasia via Fetal MRI. *Neuropediatrics*, 10.1055/a-2736-4758.

de Moura Targino, R., **Esmeraldo, M.A.**, Cajazeiras Falcão, I., & Macêdo Melo, K. (2025). Intersection of Brain Complexity, Functional Connectivity, and Neuropsychology: A Systematic Review. *Cureus*, 17(3), e80719.

Oliveira, S. C. de S., Wisenfad, A. C. F., **Esmeraldo, M. A.**, Guimarães, W. M., & Otani, M. H. (2024). Intracranial chondrosarcoma originating from the sella turcica. *Journal of Brazilian Neurosurgery*, 35(4), 401–405.

Esmeraldo, M. A., Prates, I. R., Lucato, L. T., & Barbosa Junior, A. A. (2024). Mevalonic Aciduria in a Pediatric Patient: A Case Report and Literature Review of Neuroimaging Findings. *Cureus*, 16(7), e65209.

Cavalcante-Neto, J. F., Dos Reis, G. C., **Esmeraldo, M. A.**, Dos Santos, B. R. F., Leal, P. R. L., da Ponte, K. F., Cristino-Filho, G., & Ribeiro, E. M. L. (2022). Eight-and-a-Half Syndrome Secondary to Neurotoxoplasmosis. *Neuro-ophthalmology*, 46(5), 335–338.

de Macedo, V. S. O., Moreira, G. B., de Albuquerque, A. C. F., Oliveira, S. C. S., **Esmeraldo, M. A.**, Barbosa, F. C. B. (2021). Late mesenteric ischemia after SARS-Cov-2 infection: case report. *J Vasc Bras*, 20, e20200105.

Oliveira, S. C. S., Santos, L. T. R., **Esmeraldo, M. A.**, Neto, O. P. O., & da Ponte, M. F. (2020). Macroscopic Hematuria as the Initial Presentation of Polycythemia Vera. *Cureus*, 12(10), e10800.

de Sousa Oliveira S.C., Guimarães W.M., Evangelista N.G., Dina Monteiro A.M., **Esmeraldo, M.A.**, Ferrari P.A.P.F. (2023). Calcified Nodule by Cryptococcus Neoformans Presenting as an Expansive Brain Lesion in an Epileptic Man with HIV. *J Surg* 8: 1729.

Matos, L. E. O., Figueiredo, G. S., Monteiro, M. B. C., **Esmeraldo, M. A.**, Ponte, D., Ferreira, K., Cristino-Filho, G., Leal, P. R. L., & Lacerda, G. (2023). Complete C4–C5 dislocation secondary to shallow water diving in a child: A case-based update. *Arquivos Brasileiros de Neurocirurgia: Brazilian Neurosurgery*. Thieme Revinter Publicações Ltda.

Carneiro, A. A. M., **Esmeraldo, M. A.**, de Lima e Silva, D. E., & Ribeiro, E. M. L. (2022). Creutzfeldt-Jakob disease: Literature review based on three case reports. *Dementia & Neuropsychologia*, 16(4).

Barroso, L. K. D., **Esmeraldo, M. A.**, Oliveira, D., Carioca, I., Rodrigues, M. C. J., & Souza, N. S. (2021). Systematic review of the antidepressant activity and associated antioxidant and anti-inflammatory effects of flavonoids in rodents. *Research, Society and Development*, 10(12), e410101220673.

Cavalcante Neto, J. F., Oliveira, D. S., Carlos, S., **Esmeraldo, M. A.**, Brito Júnior, F. A., Lacerda Leal, P. R., Souza Moreira, C. H., Lima Ribeiro, E. M., Gerardo Filho, C., Ponte, D., & Ferreira, K. (2021). Superficial temporal artery pseudoaneurysm as cause of refractory headache: A case report. *JBNC: Jornal Brasileiro de Neurocirurgia*, 32(2), 199–202.

Ary Cavalcante, C., Oliveira, D. S., Carlos, S., Cavalcante Neto, J. F., **Esmeraldo, M. A.**, Brito Júnior, F. A., Marcos Silvino, F., Fortes Monteiro, M., Lima Ribeiro, E. M., Ponte, D., Ferreira, K., & Gerardo Filho, C. (2019). Cervical intramedullary cavernoma in children: Case report and literature review. *JBNC: Jornal Brasileiro de Neurocirurgia*, 29(3), 566–571.

Araújo, K., Lana; Arcanjo, Jeane; **Esmeraldo, M. A.**, Silva, Barbalho; Weiny, Anderson; Maciel, C.; Antonio, J., Castro-Silva, Iuco, I. (2017). Tatuagem Por Amálgama Em Paciente Edentada: Da Semiologia à Terapêutica. *Brazilian Journal of Surgery & Clinical Research*, 20.0(2).

Book Chapters

Soares B.P., **Esmeraldo, M.A**. (2026). Neuroimaging in the Evaluation of Pattern and Timing of Fetal and Neonatal Brain Abnormalities. In: Bonifacio SL, Wusthoff CJ, Chock VY, Hintz SR, Druzin ML, Gunn AJ, Stevenson DK, eds. Fetal and Neonatal Brain Injury. 6th ed. Cambridge University Press (pp. 294–312).

Montenegro, M. L., **Esmeraldo, M. A.**, Vasconcelos, G. L., & Ponte, K. F. (2021). Intracranial hypertension syndrome (*Síndrome de hipertensão intracraniana*). In Major clinical syndromes (*Grandes síndromes clínicas*) (1st ed., Vol. 1). Sanar.

Albuquerque, F. B., **Esmeraldo, M. A.**, & Esteves, A. B. (2021). Neural democracy (*Democracia neural*). In Law and politics: Aspects of functioning democracies (*Direito e política: aspectos das democracias que funcionam*) (1st ed.). Kindle Direct Publishing.

Esmeraldo, M. A., Araujo, M., Portela, L. C., & Soares, L. C. (2020). Transfusion therapy (*Terapia transfusional*). In Intensive Care Unit Routines (*Rotinas em Unidade de Terapia Intensiva*) (Vol. 1, pp. 656). Sanar.

Esteves, A. B., & **Esmeraldo, M. A**. (2020). The transdisciplinary emergence of neurocriminology as a relevant science for contemporary crime diagnosis. In Fundamental rights & research methodology I (*Direitos fundamentais & metodologia da pesquisa*) (pp. 446–470).

Conferences

Oral Presentations (selected)

American Society of Pediatric Neuroradiology (ASPNR) Meeting, Tampa, FL **2026**
Esmeraldo, M. A., Chambers, S., Kravutske, Y. et al. Evaluation of a state-of-the-art AI algorithm for detection of focal cortical dysplasia. Spotlight scientific oral presentation.

Radiological Society of North America (RSNA) Meeting, Chicago, IL **2024**
Esmeraldo M. A., Lacerda I. S., Shri K. J. Computational algorithm for automated pattern recognition differentiating biliary and portal venous gas in computed tomography. Scientific oral presentation. doi.org/10.13140/RG.2.2.16951.59046

Global Experts Meeting on Frontiers in Neurology and Neuroscience, London, UK **2019**
Esmeraldo M. A., Cavalcante Neto J. F., Silvino F. M. S., Leal P. R. L., Cristino Filho G., Ponte K. F. Prognostic value of optic nerve sheath measurements performed on initial brain computed tomography in moderate and severe traumatic brain injury patients.

Global Experts Meeting on Frontiers in Neurology and Neuroscience, London, UK **2019**
Esmeraldo M. A., Ponte K. F., Cavalcante Neto J. F., Louzada A. G. M., Brito Junior F. A., Oliveira S. C. S., Brito K. S., Cristino Filho G., Leal P. R. L., Ribeiro E. M. L. Toxic meningoencephalitis secondary to retained firearm projectiles.

World Congress on Brain, Behaviour and Emotions, Gramado, Brazil **2018**
Esmeraldo M. A., Ratts B. F. S., Leal F. N. M., Moreira G. B., Cristino Filho G., Sindou M., Leal P. R. L. Application of the diffusion tensor imaging (DTI) sequence in the investigation of structural changes of the trigeminal nerve in patients with trigeminal neuralgia caused by neurovascular compression.

Invited Talks

***Jornada Paulista de Radiologia* (SPR–RSNA) – Conference, São Paulo, Brazil** **2026**
Oral talk as main speaker on "*Update on Adult Transcranial US, Doppler and CEUS*"

Imagine – Conference, São Paulo, Brazil **2025**
Oral talk as invited speaker in the Ultrasonography section — *"B-Flow applications"*

Microvascular Doppler Webinar – Virtual Conference, São Paulo, Brazil **2025**
Oral talk as invited speaker — *"Microvascular Doppler Applications"*

Awards

Best Resident InRad – Guerbet Sponsored, Institute of Radiology (InRad) **2024**
Awarded to the resident with the best performance among 68 radiology residents, based on clinical performance and long-term academic achievements
Grant: Full RSNA 2024 registration, travel, and housing costs in addition to a one-week observership at the Neuroradiology Department of Massachusetts General Hospital – Harvard

Bayer – CBR Scholarship – Visiting Scholarship Programme Europe (ESOR) **2024**
Awarded based on the performance in the Brazilian Radiology Board Exam and academic achievements
Grant: Scholarship for a 3-month observership at the Neuroradiology Department of Addenbrooke's Hospital, Cambridge, UK

Certificate of Merit, SPR – *Jornada Paulista de Radiologia* (JPR) **2023**
Presented work: *"Neurosyphilis: Radiological Findings of a Re-emerging Disease"*

Academic Distinction – Magna Cum Laude, Federal University of Ceará (UFC) **2021**
Graduated with honors (*Magna Cum Laude*) in Medicine

Young Researcher Award, World Congress on Brain, Behavior, and Emotions **2018**
Awarded for best scientific posters