

# Sreekar Chigurupati

812-955-9352 | [chigurupatisreekar@gmail.com](mailto:chigurupatisreekar@gmail.com) | [LinkedIn: sreekar-chigurupati](#) | [GitHub: sreekarchigurupati](#)

## EDUCATION

### Indiana University

*PhD in Neuroscience and Intelligent Systems Engineering*

Aug 2022 – Aug 2027

*Bloomington, IN*

GPA 3.92 | Luddy School of Informatics, Computing, and Engineering.

Focus on Artificial Intelligence and Medical Imaging. Dual Major. Associate Instructor for Statistical techniques and Image Processing for Medical Applications

### Indiana University

*M.S. in Intelligent Systems Engineering*

Aug 2021 – Dec 2023

*Bloomington, IN*

### Birla Institute of Technology and Science, Pilani

*B.E.(Honours) Electronics & Communication Engineering*

Aug 2014 – Jul 2018

*Hyderabad, India*

## EXPERIENCE

### Graduate Research Assistant

*Garyfallidis Research Group*

Dec 2021 – Present

*Bloomington, IN*

- Working on Theoretical Machine Learning, Artificial Intelligence and diffusion MRI. Currently using deep learning to solve distortion in medical imaging
- Developed optimized CUDA versions of image registration algorithms with a 2x reduction in runtime
- Facilitating a focus group on distortion correction methods in collaboration with Harvard Medical School and several state-of-the-art research labs

### Open Source Developer

*Diffusion Imaging in Python*

Oct 2022 – Present

*Bloomington, IN*

- Implemented a comparative visualization tool for 3D medical images
- Mentored a Google Summer of Code project on Generative AI using variational autoencoder & diffusion models for synthetic medical image generation

### Senior Software Engineering Associate

*Telstra*

Aug 2018 – Aug 2021

*Hyderabad, India*

- Developed a petabyte scale data insights platform using AWS, Spark, Spark-ML and ElasticSearch
- Led Spark optimization efforts that lead to a 30% reduction in cloud costs
- Played a key role in setting up an AI innovation and capability center. Spearheaded collaboration with multiple universities to develop feeder programs for the center

## PROJECTS & PUBLICATIONS

### Fast distortion correction for MRI | *ISMRM 2024*

- Developed a method that uses style transfer and image registration to perform susceptibility distortion correction in diffusion MR images
- Trained a deep learning model using a CycleGAN (generative adversarial network) architecture to perform style transfer for medical images
- Achieved a 20x speedup compared to state-of-the-art distortion correction methods

## TECHNICAL SKILLS

**Languages:** Python, C/C++, SQL, JavaScript

**Frameworks & Libraries:** CUDA, NumPy, TensorFlow, PyTorch, Keras

**Developer Tools:** Git, AWS, Bash

**Maths:** Linear Algebra, Optimization, Statistics

**AI/ML:** Machine Learning, Computer Vision, Generative Models, Pattern Recognition, Neural Networks, Deep Learning

**Neuroscience:** EEG, MRI, PCR, Bioinformatics, Experiment Design

## AWARDS & PROFESSIONAL ASSOCIATIONS

**Indiana University Program in Neuroscience PhD fellowship 2023**

**Professional Memberships:** International Society for Magnetic Resonance in Medicine, Member