SREENATH KYATHANAHALLY

Senior AI engineer

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🎓 Google scholar

EXPERIENCE

Senior AI Engineer
b-rayZ

💼 Zurich, Switzerland   📍 June 2023 – Present

- Assemble large, complex medical datasets for AI models.
- Implement process improvements for automation and scalability.
- Build infrastructure for data extraction and loading using Mongo, SQL, and Cloud.
- Develop AI algorithms for medical image segmentation and classification using TensorFlow and PyTorch.
- Implement YOLO-v8 based object detection and segmentation for medical images.
- Conduct data exploration and analysis to derive insights for model development.
- Maintain pipelines for continuous integration and deployment.
- Mentor team members on efficient AI development.
- Ensure compliance with medical device standards.

Senior Deep Learning Engineer
HiD-Imaging

💼 Zurich, Switzerland   📍 Feb 2022 – May 2023

- Develop deep learning algorithms for medical imaging.
- Utilize heart atlas based training for cardiac image segmentation.
- Annotate and segment CT images to improve AI model accuracy.
- Adhere to Quality Management System (QMS) requirements.
- Support cloud-based AI algorithms for real-time analysis.
- Foster collaboration and knowledge sharing within the team.

Machine Learning Researcher - Scientist FS8
ETH, Eawag

💼 Zurich, Switzerland   📍 Sep 2020 – Present

- Develop deployable deep learning algorithms, including GANs, for plankton classification.
- Use transfer learning and data augmentation techniques, characterizing noise, to improve model generalization.
- Collaborate with domain experts to understand and address ecological implications of plankton classifications.
- Implement vision transformers for efficient and scalable image processing.
- Publish research findings in top-tier machine learning and ecology venues.

Computer Vision Scientist – ML on Computer Vision
Qualysense AG

💼 Zurich, Switzerland   📍 Dec 2019 – Aug 2020

SKILLS

🏆 **Deep Learning**
TensorFlow, PyTorch, Keras

👁 **Computer Vision**
OpenCV, Pillow

⚗ **Web Development**
Flask

▦ **Data Manipulation and Analysis**
NumPy, Pandas

⚗ **Machine Learning**
Scikit-learn

☁ **Cloud Platforms**
Amazon AWS, Microsoft Azure

🗄 **Database Management**
SQL, MongoDB

</> **Programming Languages**
Python, MATLAB, HTML

⑁ **Version Control**
Git

🐳 **Containerization**
Docker

🏥 **Medical Imaging**
MRI, CT, PET

☰ **Agile Management**
JIRA, Asana

🧩 **Image Registration**
Spatial and Temporal registration

🔬 **Object Detection**
YOLO, Faster R-CNN, SSD

📷 **Image Processing**
Image enhancement, Image restoration, Image segmentation

☰ **Model Tracking**
Weights and Biases

🛠 **Development Tools**
Visual Studio, Eclipse, VS Code

AWARDS AND HONORS

🏆 **IRP Research grant, Zurich, Switzerland**
co-applicant, 150k CHF, 2020-23

🏆 **Magnetic Resonance in Medicine journal**
Top downloaded author, 2018-19

🏆 **Ecole Polytechnic, Montréal, Canada**
Research travel grant, 4k CHF, 2018

🏆 **ISMRM**
Educational stipend award, 2013, 2014, 2015

- Developed state-of-the-art machine learning algorithms for computer vision problems, such as classifying Soybeans and Corn based on certain features.
- Maintained modular, scalable, and sustainable code following Scrum Agile methodologies.

Postdoctoral Researcher - ML Tools for Medical Images
Balgrist Hospital
🗓 Zurich, Switzerland   📍 Nov 2017 – Nov 2019

- Developed deep learning algorithms for segmenting spinal cord lesions using medical images.
- Investigated neuro-imaging biomarkers responsible for pain in spinal cord injury patients.
- Conducted longitudinal studies to analyze structural and microstructural changes in the brain of spinal cord injury patients.

Research Scholar - ML Tools for Medical Images
Ecole Polytechnic
🗓 Montreal, Canada   📍 Aug 2018 – Sept 2018

- Implement a machine learning pipeline for automatic lesion segmentation in spinal cord images using Python and TensorFlow.
- Utilize transfer learning techniques to improve the performance of lesion segmentation models on limited annotated data.

Early Stage Researcher - Marie-Curie Initial Training Network - ML Tools for Time Domain Data
AMSM, University of Bern
🗓 Switzerland   📍 Sept 2013 – Aug 2017

- Develop machine learning tools and classifiers to analyze brain tumor spectra and assist radiologists in interpreting data.
- Implement deep learning networks, including CNNs and autoencoders, to remove artifacts and improve the quality of MR spectra.
- Research and develop methodologies to predict and assess the quality of clinical MR spectra data.
- Develop a JAVA plugin for the jMRUI tool, enhancing its functionality and usability for medical image analysis.

Early Stage Researcher Secondment
Universitat Autónoma de Barcelona
🗓 Spain   📍 Dec 2014 – Feb 2015

- Acquire and apply basic machine learning skills to classify brain tumor spectra using RUSBOOST, SVM, and Random Forest algorithms.

Graduate Research Assistant
AU MRI Research Center
🗓 Auburn, AL, USA   📍 Sept 2011 – Aug 2013

- Apply signal processing techniques (denoising, ICA, PCA) to remove noise and motion artifacts from fMRI and EEG data.
- Integrate fMRI and EEG data to enhance spatial and temporal resolution for more precise brain activity analysis.
- Conduct statistical analysis and generate visualizations for research papers and conference presentations.

🏆 **ISMRM**
Magna Cum Laude merit award, 2014 2015

🏆 **ISMRM**
Summa Cum Laude merit award, 2013

🏆 **Auburn University, USA**
Graduate Assistantship Award, 45k USD, 2011-13

🏆 **Auburn University, USA**
Graduate Fellowship Award, 20k USD, 2011-13

🏆 **University of Bern, Switzerland**
2nd prize in SLAM competition, 2016

EDUCATION

Doctor of Philosophy: Biomedical Sciences/Engineering
University of Bern
🗓 Sept 2013 – Aug 2017

Thesis: Quality Aspects of Clinical Magnetic Resonance Spectroscopy: Quantification Issues, Quality Prediction, and Quality Assessment by Machine Learning

Master of Science: Electrical and Computer Engineering
Auburn University
🗓 Aug 2011 – Aug 2013

Thesis: Blind Source Separation Methods for Analysis and Fusion of Multimodal Brain Imaging Data

Bachelor of Engineering: Electronics and Communication Engineering
Visvesvaraya Technological University
🗓 Sept 2007 – June 2011

Thesis: Real-Time Industrial Production Counter using Arduino Microcontroller

CERTIFICATIONS

🏆 **MLOps Platforms**
Amazon SageMaker and Azure ML, Coursera, Issued Jun 2023, Credential ID Z6GW8K9TPSV7

👁 **Exploratory Data Analysis for Machine Learning**
Coursera, Issued May 2023, Credential ID WYGX5S8XXU56

⚗ **Supervised Machine Learning: Regression**
Coursera, Issued May 2023, Credential ID 4348E3DTY9C9

⚗ **Fundamentals of Machine Learning in Finance**
Coursera, Issued Apr 2020, Credential ID VYY9NJJ46HYJ

Bachelors Thesis: Real-Time Industrial Production Counter

Bosch

📅 Bangalore, India　　📍 January 2011 – June 2011

- Develop an improved counter using Arduino microcontroller board for efficient assembly line production monitoring.
- Design and implement control algorithms to synchronize the counter with the assembly line system.

Internship
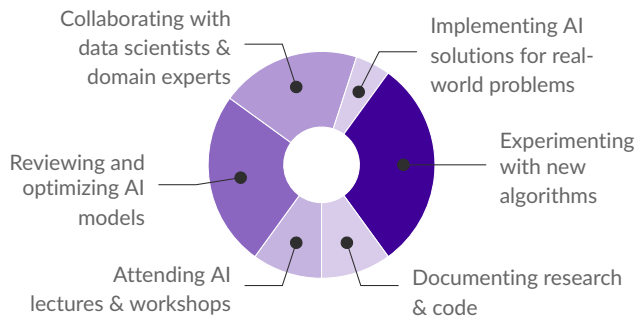
Data Care Systems Pvt. Limited

📅 Bangalore, India　　📍 July 2010 – Oct 2010

- Design an LCD Timer handheld device using PIC microcontroller assembly language programming.
- Develop firmware for the device to accurately measure and display time.

A TYPICAL DAY

Guided Tour of Machine Learning in Finance
Coursera, Issued Apr 2020, Credential ID BA4HXMXLCDMC

Introduction to Computer Vision with Watson and OpenCV
Coursera, Issued Apr 2020, Credential ID 87UHBWQTGZAE

SQL for Data Science
Coursera, Issued Apr 2020, Credential ID 2TK6RL9YNE4X

Data Science in Stratified Healthcare and Precision Medicine
Coursera, Issued Apr 2020

LANGUAGES

English
Kannada
Hindi
German