

# Srivathsa Pasumarthi

To obtain an intellectually challenging position which enables me to do innovative product development and research in Deep Learning, preferably in the healthcare and medical imaging domains.

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## WORK & RESEARCH EXPERIENCE

### Machine Learning Engineer, R&D

Subtle Medical Inc. [↗](#)

07/2019 – Present

Menlo Park, CA

- Applying novel deep learning techniques to enhance radiological images for achieving faster scans and less radiation.

### Graduate Research Assistant

Lima Lab, Johns Hopkins Medical Institute [↗](#)

01/2018 – 05/2019

Baltimore, MD

- Applied deep learning on thousands of MR and CT images from Multi-Ethnic Study of Atherosclerosis (MESA) [↗](#) to automate various segmentation tasks and developed JavaScript based web GUI for annotating and visualizing DICOM images.
- The calcium scoring project received \$12,000 worth of AWS credits and produced clinically acceptable calcium scores. The GUI enabled annotation of 2500 studies over a period of 6 weeks.

### Machine Learning Intern

Arterys [↗](#)

05/2018 – 08/2018

San Francisco, CA

- Worked as a part of the world's first FDA approved cloud based AI powered tool for automating radiological workflows using Deep Learning, producing 93% accurate and clinically acceptable results.
- Drove an entire workflow in a scaled agile environment, involving data collection, data munging, Keras based 2D segmentation and co-ordinated with clinicians for clinical usability assessment.

### Data Science Intern

Ajira Tech [↗](#)

05/2017 – 08/2017

Chennai, India

- Used hierarchical clustering and collaborative filtering on large scale retail data for a customer engagement software, to learn propensity, purchase patterns and demography. [↗](#)
- Model deployment led to 7-15% customer conversion on targeted ad campaigns and 15-20% increase in average bill value.

### R&D Engineer, Machine Learning &

### Full Stack Web Developer

Qube Cinema Technologies [↗](#)

07/2016 – 05/2017 and  
05/2014 – 07/2016

Chennai, India

- Prototyped a CNN based image classifier using Caffe Python to count the number of people in a movie auditorium, in order to provide real time viewership information to ad providers. Model was robust to auditorium layout and constrained light settings with 95% accuracy.
- Developed many significant features over the full stack of QubeWire [↗](#), a cloud based digital cinema distribution system, using Node.JS and React.JS, in an agile environment. The platform was able to handle generation of over 150,000 Key Delivery Messages (KDM aka licenses) in a period of 1 week.

## EDUCATION

### MSE Computer Science

Johns Hopkins University, Baltimore, MD

08/2017 - 05/2019

CGPA 3.84

Courses

- Deep Learning
- Computational Genomics
- Probabilistic Models of the Visual Cortex
- Machine Learning
- Data Intensive Computing
- NeuroData Design

### BE Computer Science & Engineering

Anna University, Chennai, India

08/2010 – 08/2014

CGPA 3.33

## TECHNICAL SKILLS

Python

Keras

PyTorch

DICOM

Tensorflow

Caffe

MySQL

PostgreSQL

AWS

Google Cloud

Docker

Node.JS

React.JS

HTML5

CSS3

## PROJECTS

Clarity Optimized Brain Analysis Tools [↗](#)

- Used unsupervised computer vision techniques for the detection of axons (cells), tractography and connectomics from cleared brain images obtained through light sheet microscopy.
- Gaussian Mixture Model based thresholding and connected components achieved 90% accuracy even in noisy datasets.

KrisprKreme: On-target activity prediction of sgRNA in CRISPR/CAS9 using Deep Neural Networks [↗](#)

- Converted genomic sequence data from public dataset to QR-code like binary images which facilitated training with CNNs.
- 99% accuracy by the bidirectional LSTM model to predict the on-target activity score, which is the state of the art.

## ACHIEVEMENTS

### Course Assistant/Industry Mentor

Worked as a course assistant for Object Oriented Software Engineering course in Johns Hopkins. Mentored 5 teams projects, advised on best practices in software development and trained in front end technologies.

### Industry Mentor, Smart India Hackathon 2017

Mentored the runner up team which developed an IoT based inventory management system for the Department of Posts, in the world's largest hackathon.

### Career Promotion

Have been promoted twice, to a senior level in a period of two years. Was involved in the freshers' training recruitment process after only 10 months on the job.

### Accomplished Musician

South Indian classical percussionist with over 19 years of training and appearances in many regional and national TV channels. Recognized musician of All India Radio and performed in over 600 concerts including the popular "Cleveland Thyagaraja Aradhana". Also a self-taught flautist.