Kaushik S

https://kaushiksarveswaran.github.io · Kaushik3497@yahoo.co.in · +91 8056058693 ·
www.linkedin.com/in/kaushik-sarveswaran-902020112/

Education

IIITDM Kancheepuram — Chennai
Dual Degree (B.Tech+M.Tech) Computer Engineering *GPA: 8.83/10* — July 2014 - July 2019

Maharishi Vidya Mandir — Chennai
CBSE Grade 12 : 475/500 — April 2014

Jawahar Vidyalaya — Chennai
CBSE Grade 10 GPA: 10/10 — April 2012

Publications

- Murugesan B., Sarveswaran K., Shankaranarayana S.M., Ram K., Joseph J., Sivaprakasam M. (2019) Conv-MCD: A Plug-and-Play Multi-task Module for Medical Image Segmentation. In: Suk HI., Liu M. (eds) Machine Learning in Medical Imaging. MLMI 2019.
- Murugesan B., Vijaya Raghavan S., Sarveswaran K., Ram K., Sivaprakasam M. (2019) Recon-GLGAN: A Global-Local Context Based Generative Adversarial Network for MRI Reconstruction. In: Knoll F., Maier A., Rueckert D. (eds) Machine Learning for Medical Image Reconstruction. MLMIR 2019.
- Balamurali M*., Kaushik S*., SM Shankaranarayana, K Ram, M Sivaprakasam: Psi-Net: Shape and boundary aware joint multi-task deep network for medical image segmentation. In: 2019 IEEE 41st Engineering in Medicine and Biology Conference (EMBC 2019) https://ieeexplore.ieee.org/document/8857339
- Balamurali Murugesan, Sakthivel Selvaraj, Kaushik Sarveswaran, Keerthi Ram, Jayaraj Joseph, Mohanasankar Sivaprakasam, "Deep detection and classification of mitotic figures," Proc. SPIE 10956, Medical Imaging 2019: Digital Pathology, 109560T (18 March 2019)
- Kaushik S., Raghavan S.V., Sivaselvan B. (2019) A Study of Deep Learning Methods for Mitotic Cell Detection Towards Breast Cancer Diagnosis. ICACDS 2019. Communications in Computer and Information Science, vol 1045. Springer, Singapore
- Balamurali M, Kaushik S., Vijaya Raghavan S., Keerthi Ram, M Sivaparakasam: A context based deep learning approach for unbalanced medical image segmentation (Under Review at ISBI 2020).

Experience

PayPal — Chennai
Software Engineer — July 2019 - Present

Healthcare Technology Innovation Centre, IITM Research Park — Chennai
Research Intern — May 2018 - July 2019

- Was part of the Deep learning team in the Image Computing group. Conducted research in Medical Image Analysis, specifically in the domains of Image segmentation and reconstruction. Work resulted in several publications in leading Medical Imaging Conferences.
- Applied state of the art deep learning architectures while participating in challenges in different imaging modalities - *Retinal Fundus Images* for Identification of Glaucoma, *Colonoscopy Videos* for polyp detection and *Histopathological Whole-slide Images of Cancer* for Mitotic Cell Detection, one of the strongest prognosticators for invasive breast carcinoma.
- Current research is focused on exploring interpretable and memory-efficient methods for Medical Image Analysis, specifically Segmentation and Reconstruction.

IIT Delhi — Delhi
Intern — May 2017 - July 2017

- Worked at the Data Analytics and Intelligence Research (DAIR) Lab under Prof.Maya Ramnath on the proposal “Supporting instant search on graphs using keyword queries”.
- Implemented an Interface which supports Auto completion of keywords while the user is typing and Dynamic results for the part of the query entered.

Institute Of Mathematical Sciences Chennai
Summer Student May 2016 - June 2016

Was part of a summer student program wherein I was exposed to interesting topics for research in Theoretical Computer Science.

Skills and Areas Of Interest

Programming Languages:	C, C++,Python,MySQL, HTML,JS,PHP,Verilog HDL
Operating Systems:	Windows, Linux
Areas Of Interest:	Deep Learning, Game Development
Relevant Online Courses Undertaken :	Deep Learning Specialization - Andrew Ng
	Neural Networks for Machine Learning - Geoffrey Hinton
Relevant Frameworks/Libraries Used :	TensorFlow,PyTorch,Scipy,Skimage,Pandas,three.js

Projects

C++
Implemented a sorting library to compare the performance of various sorting algorithms
Implemented a graph container class and standard graph processing algorithms.
`https://github.com/project-prosper`

HTML, three.js
An Endless Runner type Video Game where the Player's Objective is to bypass obstacles and collect points.
`https://strangerwoods.herokuapp.com`

Design Project - Express
Worked on designing and pre-prototyping a smart pen which could write on most surfaces in an office scenario (in a group of 5).
`https://drive.google.com/drive/u/1/folders/1YYjdzek388EQbSgOErAOF34FfzBHKIxh`

Achievements/Other Activities

Deep Learning

- *Reviewer at Machine Learning for Health(ML4H) Workshop, NeurIPS 2019.*
  `https://ml4health.github.io/2019/`
- *Placed 3rd in the Offline Classification Task in the "Retinal Fundus Glaucoma Challenge(REFUGE)", Ophthalmic Medical Image Analysis (OMIA) Workshop, MICCAI 2018.*
  `https://refuge.grand-challenge.org/media/REFUGE/public_html/Proceedings/REFUGE-Winter_Fell.pdf`
- *Placed 2nd in the Onsite Classification Task in the "Gastrointestinal Image ANAlysis (GIANA)" sub-challenge, a part of the Endoscopic Vision Challenge(EndoVis) Challenge, MICCAI 2018.*
  `https://endovis.grand-challenge.org/`

Chess

- *International Level Chess Player with a FIDE Elo Rating of 2126.*
  `http://ratings.fide.com/card.phtml?event=5036020`
- *State Level Chess Champion.*
- *Captain of the Chess Team which won Gold at the IIIT Inter Collegiate Sports Meet.* *December 2016*

Teaching Assistant *IIITDM Kancheepuram*
Performed TA duties for the course Operating Systems(COM301/301P) *July - November 2018*

ICT Quiz - 1st Prize *IEEE Chennai*
National Level Inter-Collegiate Quiz on current trends and developments in Information and Communication Technology. *November 2016*

CODS 2017 *IIT Madras*
Received Travel grant for attending the 4th ACM IKDD Conference on Data Sciences. *March 2017*