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Kameswari Devi Ayyagari

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SUMMARY

- 5 years of professional experience in the field of computer science developing and working with large codebases.
- Strong experience in data modeling, feature extraction, data visualization and developing deep learning applications.
- Developed volume rendering, image compositing, image reconstruction algorithms and optimized them for large computational clusters.
- Proficient in C, C++, and Python with a strong background in Algorithms, Data Structures, and Programming

EDUCATION

Master of Science, Computer Science　　　　　　　　　　　　　　　　　　　　**May 2017**
School of Computing, University of Utah**,** Salt Lake City, UT
Bachelor of Technology, Computer Science　　　　　　　　　　　　　　　　　**May 2013**
School of Computing, SASTRA University, Thanjavur

SKILLS

Programming Languages: C++, Python, CUDA, Go　　　　**Frameworks:** Tensorflow, Keras
Databases: PostgreSQL, MongoDB　　　　　　　　　　　**Version Control:** Github, Git, PVCS

EXPERIENCE

***Research Engineer(Computer Vision and Deep Learning)*, Proscia**　　　　**December 2018 - May 2020**
- Developed a real-world deep learning pathology software system using techniques like multiple instance learning, confidence thresholding to enable faster diagnosis of skin cancer.
  Publication: "Tailored for Real-World: A Whole Slide Image Classification System Validated on Uncurated Multi-Site Data Emulating the Prospective Pathology Workload", https://doi.org/10.1038/s41598-020-59985-2
- Developed tools for image classification, stain normalization and image segmentation for digital pathology software systems using deep learning.
- Developed efficient visual interpretation techniques to explain the decisions made by deep learning classification systems.
- Designed and optimized deep learning development and deployment pipelines and steering the current code development and operational practices to be in concordance with FDA guidelines for medical devices.

***Machine Learning and Imaging Scientist*, nView medical**　　　　**Aug 2017 - November 2018**
- Developed deep learning infrastructure to improve the quality of 3D tomographic medical images.
  Publication: "Image reconstruction using priors from deep learning", Proc. SPIE 10574,Medical Imaging 2018:doi:10.1117/12.2293766
- Low latency tomographic imaging reconstruction system and method based on compressed data, multi-scale data representation, and computation. This method allows for real-time reconstruction over the cloud.
- **Patent**: Multi-scale image reconstruction of three-dimensional objects. Filed Sep 14, 2018 Patent issuer and number: us US 16/572,479.
- Developed, profiled and optimized image reconstruction software for a medical imaging device that generates near real-time 3D reconstructions using cone-beam tomosynthesis fluoroscopy.

***Research Assistant*, Scientific Computing and Imaging Institute, University of Utah**　　　**May 2016 - May 2017**
- Integrated an in-situ image compositor and raycaster into the S3D Direct Numerical Simulation system to run on the Oak Ridge National Laboratory's Titan supercomputer.

***Software Engineer*, Honeywell Technology Solutions Lab, India**　　　　**Aug 2013 - June 2015**
- Implemented data extraction techniques on requirement documents to extract images and data points to drive an automated test engine. The developed tool created workflow models, test scripts and scheduled them on the target hardware. The tool replaced a time consuming, error-prone manual process to an automated system that increased team efficiency by 28%.
- Won Honeywell's Best Engineer Award for the above project.
- Developed an image comparison tool for graphics testing of Multi-Functional Display in airplane cockpits.

***Summer Intern*, Bhabha Atomic Research Center**　　　　　　　　　　　　**April 2012 - June 2012**
- Developed an algorithm for cross a compiler for arm pc and software postbox using socket programming