Pritish Sahu

31 Canterbury Court, Piscataway, NJ 08854, Tel: +1 732-485-2582
https://www.linkedin.com/in/pritishsahu/
http://sahupritish.github.io
pritish.sahu@rutgers.edu / pritish.sahu@gmail.com

EDUCATION

Rutgers University, New Brunswick, NJ, USA   September 2017 – Present
Ph.D. in Computer Science   GPA –3.79/4.0
Advisor: Professor Vladimir Pavlovic
Courses: Pattern Recognition, Theoretical Foundations of Deep Learning (Princeton University), Advanced Algorithms (I, II), Convex Optimization.

Rutgers University, New Brunswick, NJ, USA   September 2015 – May 2017
Master of Computer Science   GPA –3.81/4.0
Courses: Machine Learning, Data Structures and Algorithms, Artificial Intelligence, Computer Vision, Robot Learning, Computer Graphics.
Master Thesis: "**Cube Maze**" under the guidance of **Dr. James Abello**, Rutgers University.

National Institute of Technology, Rourkela, Orissa, India   August 2007 – May 2011
Bachelor of Engineering in Computer Science   GPA – 7.63/10
Undergraduate Thesis: "**Study of approaches to remove show-through and bleed-through in document images**" under the guidance of Dr. Pankaj Kumar Sa, N.I.Technology, Rourkela, India.

PUBLICATIONS

- Minyoung Kim, **Pritish Sahu**, Behnam Gholami, Vladimir Pavlovic, "*Unsupervised Visual Domain Adaptation: A Deep Max-Margin Gaussian Process Approach*", Conference on Computer Vision and Pattern Recognition (CVPR Oral), 2019.
- Minyoung Kim, **Pritish Sahu**, Yuting Wang, Vladimir Pavlovic, "*Bayes-Factor-VAE:Hierarchical Bayesian Deep Auto-Encoder Models for Factor Disentanglement"*, International Conference on Computer Vision (ICCV Oral), 2019.
- Minyoung Kim, **Pritish Sahu,** Yuting Wang and Vladimir Pavlovic. "**Relevance Factor VAE: Learning and Identifying Disentangled Factors**". arXiv preprint arXiv:1902.01568(2019).
- Sejong Yoon, Mubbasir Kapadia, **Pritish Sahu**, Vladimir Pavlovic, "*Filling in the blanks: reconstructing microscopic crowd motion from multiple disparate noisy sensors*", Applications of Computer Vision Workshops (WACVW), 2016 IEEE Winter.

WORK EXPERIENCE

Summer Internship   **Triveni Digital Inc, USA**, May 2016-August 2016
- Implemented Wireshark decoder for Triveni protocols using Lua & C.
- Build Web Portal for Triveni using JavaScript, HTML/CSS, Java, Servlet Framework and Apache-Tomcat Server.

Senior Software Engineer   **Samsung R&D, India**, June 2011-July 2015
- Optimized Graphics library for Samsung FullHD (1920x1080) & UHD (3840x2160) TV having GPU & without GPU.
- Client-Server architecture of texture creating on the CPU side and rendering using GPU for better performance.

- Contributed to development of Core Graphics library- 2D/3D drawing, various animation support. Implemented X window-graphics window support, memory optimization, interprocess communication.
- WebGL support for Samsung Smart TV browser, unit test case framework to conduct performance & features check.
- Development & Maintenance of On-Screen Keyboard on Samsung Smart TV.

ACADEMIC PROJECTS

- **Web Portal for Master Students in CS (ms.cs.rutgers.edu):** Full Stack portal for CS department with faculty and student information and interactions.
- **Web Application for Minimum Spanning Tree:** Animating algorithm projects "Algorithms Snippets" showcasing Minimum Spanning Tree.
- **Next Word Prediction using Long Short-Term Memory:** Built a language model trained using Recurrent Neural Network (LSTM) to predict the next word in a sentence using Theano. Compared with Bigram, Trigram and, 4-Gram Models to validate the belief that Recurrent Neural Network is better.
- **Fast Trajectory Planning:** Implemented Adaptive A* search planning algorithm in Java/C++ that helps an agent move efficiently from a source to destination and adapt itself when an obstacle occurs in the path.
- **Face, Digit & Character Recognition:** Implemented character recognition by extracting the HU (centroid) moments from images and applied a Nearest Neighbor classifier to classify the test images. For face, digit classification implemented Perceptron, Naive Bayes & MIRA.
- **Objects in Image Classification, Recognition & Detection:** The objective was to locate objects in shelf for the Amazon Pick up Challenge. The Challenge consisted in Object Classification, Detection, and Recognition. We used "SIFT & SVM" and "a Sequential Neural Network" using Theano and Keras for classification. Extracted Surf features to train and test for Detection. Trained on SIFT features and verified used homography and bounding box for Recognition.

ACHIEVEMENTS

Samsung Best Project Award: For successfully implementing Full HD & Smart TV features on Samsung TV.

SKILLS

Languages: Python, Java, C++, C, Matlab, JavaScript(D3.js, Tween.js, Bootstrap), HTML, CSS.
Machine Learning/Vision Libraries: Pytorch, TensorFlow, Keras, OpenCV.
Tools: Apache-Tomcat Framework, Django Framework, Makefile, Servlet, Eclipse, Visual Studio, MySQL, OpenGL/WebGL, Wireshark, Unity, ARM StreamLine.