# Curriculum Vitae – Shivanand Venkanna Sheshappanavar


**Personal Information**

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**Research Interests**

My research interests are in 3D Computer Vision, Mesh/Point Cloud Analysis (Recognition), Geometric Deep Learning, and extend into few-shot/incremental/continual learning and Neural Radiance Fields (NeRFs).

**Education**

**Doctor of Philosophy in Computer and Information Science.** **May 2023**
University of Delaware (UD), Newark, Delaware, USA. 3.87 gpa
**Master of Science in Computer Science.** **May 2018**
Syracuse University (SU), Syracuse, New York, USA. 3.67 gpa
**Master of Technology in Computer Science and Engineering.** **August 2012**
Visvesvaraya Technological University, India. 76%
**Bachelor of Engineering in Computer Science and Engineering.** **June 2009**
Visvesvaraya Technological University, India. 69.5%

**PhD Thesis**

"Learning from Neighborhoods for 3D Point Cloud Classification"
Advisor : Dr. Chandra Kambhamettu.
Committee : Dr. Christopher Rasmussen, Dr. Li Liao, Dr. Vu Dinh (Mathematical Sciences).

**Under Review**

**Sheshappanavar, Shivanand Venkanna**, Yufan Wang, & Chandra Kambhamettu. "3DGrocery100 : A large benchmark 3D dataset for grocery recognition", *IEEE Transactions on Multimedia.*

**Sheshappanavar, Shivanand Venkanna**, and Chandra Kambhamettu. "Neighborhood Filling for Human Activity Recognition", *IEEE International Conference on Image Processing 2023 (ICIP).*

**Accepted Publications**

**Sheshappanavar, Shivanand Venkanna**, & Chandra Kambhamettu. "Local Neighborhood Features for 3D Classification", 22nd Scandinavian Conference In Image Analysis, SCIA 2023, Levi Ski Resort (Lapland), Finland, Springer International Publishing, April 2023. (Acceptance rate **40-50**%),

**Sheshappanavar, Shivanand Venkanna**, and Chandra Kambhamettu. "SimpleView++ : Neighborhood Views for Point Cloud Classification" 2022 *IEEE 5th International Conference on Multimedia Information Processing and Retrieval (MIPR).* IEEE, 2022. (Acceptance rate **20**%),

**Sheshappanavar, Shivanand Venkanna**, Vinit Veerendraveer Singh, and Chandra Kambhamettu. "PatchAugment : Local Neighborhood Augmentation in Point Cloud Classification." *Proceedings of the IEEE/CVF International Conference on Computer Vision Workshops.* 2021. (Acceptance rate **30-40**%),

**Sheshappanavar, Shivanand Venkanna**, and Chandra Kambhamettu. "Dynamic local geometry capture in 3d point cloud classification." 2021 *IEEE 4th International Conference on Multimedia Information Processing and Retrieval (MIPR).* IEEE, 2021. (Acceptance rate **20**%),

Singh, Vinit Veerendraveer, **Shivanand Venkanna Sheshappanavar**, and Chandra Kambhamettu. "MeshNet++ : A Network with a Face." *Proceedings of the 29th ACM International Conference on Multimedia.* 2021. (Acceptance rate **9**% Oral),

Singh, Vinit Veerendraveer, **Shivanand Venkanna Sheshappanavar**, and Chandra Kambhamettu. "Mesh Classification with Dilated Mesh Convolutions". 2021 *IEEE International Conference on Image Processing (ICIP).* IEEE, 2021. (Acceptance rate **46**%),

**Sheshappanavar, Shivanand Venkanna**, and Chandra Kambhamettu. "A novel local geometry capture in PointNet++ for 3D classification". *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops.* 2020. (Acceptance rate **30-40**%),

**Other Accepted Publications**

**Sheshappanavar, Shivanand Venkanna**, and Mohan Chilukuri. "LSTM based Soil Moisture Prediction", *Proceedings of the North Eastern Regional Conference on Complex Systems (NERCCS)* - 2018, , .

Manish Verma, **Shivanand Venkanna Sheshappanavar**. "HoS : A metric driven approach to measure Quality/Health of Silicon", 2nd Runner up, iTech Days 2012, Infineon Technologies India Pvt Ltd, Bengaluru. (Acceptance rate **29**%, **Awarded third prize**).

**Journal Reviewer**

IEEE Transactions on Circuits and Systems for Video Technology 2023.
IEEE Robotic Automation Letters 2022.
Pattern Recognition 2022.

**Conference Reviewer**

IEEECVF Conference on Computer Vision and Pattern Recognition (CVPR) 2023, 2022,
IEEECVF International Conference on Computer Vision (ICCV) 2023,
European Conference on Computer Vision (ECCV) 2022,
IEEE International Conference on Pattern Recognition (ICPR) 2022.

**Sub-Reviewer**

IEEECVF Conference on Computer Vision and Pattern Recognition (CVPR) - 2021, 2020, 2019.
IEEE International Conference on Automatic Face & Gesture Recognition (FG) - 2021, 2019.
ACM International Conference on Multimedia (ACM MMM) - 2021, 2020.
European Conference on Computer Vision (ECCV) 2020.

**Teaching Experience**

**Instructor** of CISC 210 Introduction to Systems Programming Summer 2020
- Class strength : 43, Class duration : 10 weeks, Course Evaluation **4/5**.
- composed a 300+ questions repository on moodle for online quizzes.
- two lectures a week, daily office hours, grading and supervised weekly lab sessions.

**Teaching Assistant**

CISC 220 Data Structures Fall 2021
- Proctoring, three weekly lab sessions, grading, weekly office hours.
CISC 210 Intro to Systems Programming (Spring'19, Fall'19, Spring'20, Fall'20, Spring'21, Fall'22).
- Lead TA ; coordinating and delegating work to 4 graduate TAs and ten undergrads TAs
- Proctoring, grading, handling weekly lab sessions, weekly office hours.
CISC 101 Principles of Computing (Winter'21)
- Office hours, Grading, Lab sessions supervision.
CISC 361 Computer Architecture (Fall'18).
- Proctoring, grading, weekly office hours, taught two lectures.
CIS 700 Machine Learning Methods in Security (Spring'17)
- Grading assignments.

**Research Assistant**

**Research Assistant, University of Delaware.** Summer (2019, 2021 & 2022)
Video/Image Modeling and Synthesis (VIMS) Lab. Dept. of Computer and Information Sciences.

**Graduate Research Assistant, Syracuse University.** August 2016 - May 2018
Research Assistantship, Dept of EECS, Syracuse University, Syracuse, NY, USA.

**Professional Experience**

**IT Consultant - Oracle India Private Limited, Bengaluru.** October 2012 - June 2016
- Implemented Oracle Fusion and EBS R12 Applications and worked dedicatedly at client location (Alcoa, Pittsburgh, PA, May-Oct 2014) during the testing of the product (pre, during, post-go-live).
- Key contributor to formulating the process of knowledge transition for ITG tool at Alcoa inc.
- Worked closely and developed Strong working relationships with Oracle's key accounts, such as Alcoa Inc., British Telecom., Red Robin Restaurants, First America, Blackrock, Financial Corp., Church Pension, and Land O Lakes.
- Automation, Patching, Backups, Bounces, Deployments, BI Reporting, Migrations, Cloning, Upgrades, Data fixes, Data Masking, Periodic Prod password change, and auditing.
- Training : UNIX Fundamentals, SQL/PLSQL, Oracle Database 11g Admin Workshop I and II.

**Intern - Infineon Technologies Private Ltd, Bengaluru.** July 2011 - May 2012
- Built a metric-based Post-Silicon Validation tracking system (coverage information).
- Developed Automation scripts across teams and resolved issues for a specific tool.

## Skills

**Key Concepts** : Linear Algebra, Optimizations, Computer Vision, Neural Networks
**Programming Languages** : Python, C, C++, CUDA
**Deep Learning Frameworks** : PyTorch, PyTorch3D, TensorFlow, Keras, PytTorch-Geometric
**Computer Vision Libraries** : OpenCV, MATLAB, Open3D, Scikit-learn, Numpy, Matplotlib
**Database and Cloud Technologies** : Oracle, MySQL, SQL, AWS(Ubuntu)
**Tools** : MeshLab, LabelMe, Visual Studio, RStudio, MATLAB, PyCharm, XCode, Git, LaTeX

## Awards & Honors

**Best Teaching Assistant Award** (2020-2021), Dept. of CIS, University of Delaware. $500
**Third Prize** - iTech Days, Infineon India Private Limited, Bengaluru, May 2012. INR 10,000
**Top 5% Scorer**, Scored 95%tile in Graduate Aptitude Test in Engineering (Computer Science), organized by the Indian Institute of Technology (IIT). April 2010

## Relevant Coursework

**University of Delaware**
CISC 642 Computer Graphics (Spring 2021),
CISC 889 Neural Networks and Deep Learning (Spring 2020),
CISC 849 Robot Vision and Learning (Fall 2019),
ELEG 667 Convex Optimization (Fall 2019),
MATH 637 Math Techniques for Data Science (Spring 2019),
CISC 640 Introduction to Computer Vision (Fall 2018),

**Coursera**
Neural Networks and Deep Learning (Coursera/DeepLearning.AI - Summer/Fall 2018),
Structuring Machine Learning Projects (Coursera/DeepLearning.AI - Summer/Fall 2018),
Improving Deep Neural Networks : Hyperparameter Tuning, Regularization and Optimization (Coursera/DeepLearning.AI - Summer/Fall 2018),

**Syracuse University**
CIS 700 Advances in Deep Learning (Spring 2018),
CIS 731 Artificial Neural Networks (Fall 2017)
CIS 700 Machine Learning Methods in Security (Spring 2017),
CIS 700 Structure of Complex Networks (Spring 2017)

## Department Services

SIGVIS/GRAPHICS - Spring 2019, Fall 2019, Spring 2020, Fall 2020, and Spring 2021.
- Co-ordinated and managed the schedule for the weekly Special Interest Group (SIG) colloquium on Computer Vision and Graphics in the Dept. of CIS, University of Delaware.
VIMS LAB Servers and Workstations Procurement and Setup (2021-2022).

## Mentoring

Group creator and admin to Facebook Group PhDinUS - over 28k members
- mentoring PhD aspirants around the world (evaluating profiles, SOP, faculty/university matching).
- assisting newly joined Assistant Professors in recruiting PhD students.

## Talks or Presentations

MIPR Conference 2022 - SimpleView++ :Neighborhood Views for Point Cloud Classification (8/4/22)
PhD Proposal Defense - Learning from Neighborhoods for 3D Point Cloud Classification (2/11/22)
ICCV Workshop 2021 - Deep Learning for Geometric Computing - on PatchAugment (10/16/21)
MIPR Conference 2021 - on Dynamic local geometry capture in 3D point cloud classification (9/9/21)
SIGVIS/GRAPHICS Fall 2021 - Two talks - on P4Transformer (10/13/21) and PSTNet (10/20/21)
Deep Robust & Explainable AI Lab Reading Group - on P4Transformer (11/10/21)
CVPR Workshop 2020 - Deep Learning for Geometric Computing - on Ellipsoid Querying (6/13/20)
SIGVIS/GRAPHICS Spring 2020 - on Relation-Shape CNN (4/6/20)
PhD Research Prelim Presentation - Ellipsoid Querying (5/17/20)
SIGVIS/GRAPHICS Fall 2020 - Convolution in the cloud (10/21/20)
SIGVIS/GRAPHICS Fall 2018 - Two talks - on PointNet (10/31/18) and PointNet++ (11/14/18)

## References

Dr. Chandra Kambhamettu (PhD Advisor - chandrak@udel.edu),
Dr. Chilukuri K. Mohan (ckmohan@syr.edu).
Dr. Sunita Chandrasekaran (schandra@udel.edu).
Dr. Andrew Roosen (roosen@udel.edu),