

https://mriduprashanth.github.io/		West Lafayette, Indiana, USA	+1 (765) 701-8584
Education	Purdue University , West Lafayette, Indiana, USA <i>Bachelor of Science in Computer Science (Honors) & Mathematics</i> Specializations: Computer Graphics & Machine Learning GPA: overall 3.83/4.0, CS-only 3.84/4.0	Aug 2022 – Present	Graduation: May 2026
On-Going Research	[Honors Thesis] <i>VECMA-3SV: Virtual Environment on-device Complexity Management Algorithm through Stochastic Single Shot Visibility</i> . To be submitted as a short paper to Eurographics 2026.		
Research Experience	[Graphics/VR] Purdue CS XR Lab with Dr. Voicu Popescu Working on <i>VECMA-3SV</i> as lead researcher and first author. <ul style="list-style-type: none">Compressed virtual environments (VEs) by 80%: developed a novel aggressive visible set computation algorithm with better field of view during real-time on-device navigation compared to state-of-the-art.Indistinguishable from ground truth: accomplished low errors 0.05%, SSIM scores 0.99, PSNR scores 40 dB (averages).Used Unity HLSL shaders, Meta Quest 3, Visual Studio C++ Graphics Solution & OpenGL, Fast Light Tool Kit (FLTK), Python. [Vision/3D Modeling] Purdue IDiF Summer Research Program Worked on <i>UFZs</i> as lead researcher, advised by Dr. Daniel Aliaga & Dr. Aniket Bera. <ul style="list-style-type: none">Modeled urban layouts using Open Street Maps, U-Tree datasets, simulated fires in 10+ hot spot zones on Blender, evaluating aggravating factors like wind and humidity for the task of studying urban fires.Classified zones using clustering methods (K-Means, Graph clustering, Convex hull in Python), identifying 3 key hot spot zone types in Los Angeles & Indianapolis.Funded by the USDA NIFA PERSEUS project.Results led to a successful funding proposal submission for NSF Fire Science Innovations through Research and Education (FIRE). [Machine Learning] IDEAS Lab at Purdue with Dr. Aniket Bera Worked on <i>AffectEcho</i> and on <i>ARTEMIS</i> as the second author. <ul style="list-style-type: none">Achieved improved accuracy: evaluated Support Vector Machine, Multi-Layer Perceptron, Random Forest, and Gaussian Naive Bayes models in PyTorch for patient acuity classification given vital measurements, classifying acuity level 1 (most critical) with 99% accuracy.Trained on MIMIC-IV & Yale EMD datasets; addressed class imbalance by synthetically augmented using Synthetic Minority Oversampling Technique (SMOTE) & Google API embeddings.<i>AffectEcho</i>: for synthetically introducing affect into speechDemonstrated a 5.4% decrease in the Mel-Cepstral Distortion (MCD) score compared to speech generated by state-of-the-art by building a visualization tool using Jupyter, Matplotlib, t-SNE.	May 2025 – Present	Jun 2023 – May 2024
Presentations	<i>VECMA-3SV: Virtual Environment on-device Complexity Management Algorithm through Stochastic Single Shot Visibility</i> . Purdue Summer Undergraduate Research Symposium, 2025. <i>ARTEMIS: AI-driven Robotic Triage Labeling and Emergency Medical Information System</i> . [Co-presented]. Purdue Spring Undergraduate Research Conference, 2024. Awarded 2nd place.		
Papers	R. K. Senthilkumaran, M. Prashanth , H. Viswanath, S. Kotha, K. Tiwari, and A. Bera. <i>ARTEMIS: AI-driven Robotic Triage Labeling and Emergency Medical Information System</i> . Submitted to IEEE-ICRA (2025). H. Viswanath, A. Bhattacharya, P. Jutras-Dubé, P. Gupta, M. Prashanth , Y. Khaitan, A. Bera. <i>AffectEcho: Speaker Independent and Language-Agnostic Emotion and Affect Transfer for Speech Synthesis</i> . Submitted to AAAI (2023).		
Posters	<i>UFZs: A Novel Method to Identify Urban Fire Zones for Urban Planning</i> . Purdue Fall Research Expo (2024) and IDiF (Institute for Digital Forestry) Summer Research Symposium (2024).		

Teaching Experience	Department of Computer Science at Purdue	Aug 2023 – Present
	<i>Undergraduate Teaching Assistant</i> for CS 381: Analysis of Algorithms, CS 252: Systems Programming, CS 240: Programming in C, CS 193: Tools <ul style="list-style-type: none"> Developed course material for three semesters for <i>Programming in C</i> and <i>Systems Programming</i> by designing ~12 programming assignments in a Git-based production system while delineating data structure and feature specifications woven around a creative theme or story. Designed and maintained robust test cases in a custom C-based framework for each homework assignment, which was then used by ~720 students. Led a 4-person team and ran daily stand-ups to ensure development was on track to meeting deliverables. Conducted weekly labs and office hours, created quizzes, supported ~40 students weekly, and graded assignments biweekly. Helped students build intuition for pointers, memory allocation, threads, scripting languages, lex/yacc, algorithms, complexity, and graph theory through a mix of visual illustrations and proofs, also leading my own recitation session for a semester as a TA for CS 381: <i>Analysis of Algorithms</i>. 	
	Girls Who Code (Purdue College Loop)	Jan 2023 – May 2024
	<i>Curriculum Officer & Mentor</i> for High-School Programming & Outreach Workshops <ul style="list-style-type: none"> Led an introduction to web development workshop at Oakland Academy, instructing 30+ high-school girls in HTML/CSS/JavaScript by building a custom calculator app live on Code.org. Created C/C++ instructional materials for a workshop at Jefferson High School. Managed and grew the official GWC LinkedIn page. 	
	Purdue Women in Engineering-Women in Science Program	Aug 2023 – Dec 2023
	<i>Tutor</i> for Physics, Calculus 1-3, Precalculus, Python, and C <ul style="list-style-type: none"> Reached ~60 students across 1-on-1 and small-group sessions. 	
Awards	Dean's List & Semester Honors	2022 – Present
	CS Corporate Partners Scholarship for Continuing Students – \$1,500	2025
	Purdue Undergraduate Research Conference (PURC) award for 2nd place	2024
	Sponsorship for travel to HackMIT hackathon	2023
	ICPC AlgoQueen National Collegiate Hackathon, <i>Finalist</i>	2022
Relevant Coursework	CS 588: Randomized Algorithms [Grad Course] with Dr. Kent Quanrud	
	CS 334: Fundamentals Of Computer Graphics with Dr. Voicu Popescu <ul style="list-style-type: none"> Built a 3D rendering pipeline from the fundamentals (vectors, matrices, rasterization) in a C++/OpenGL graphics solution. Implemented light reflections, shadows, textures, ray tracing. Other: Linear Algebra, Artificial Intelligence, Machine Learning, Probability, Analysis of Algorithms, Data Structures, Programming in C, Systems Programming, Operating Systems	
Projects	<i>SearchTracker</i> : Chrome extension helping manage research papers and Google Scholar profiles.	2023
	<i>Pathways</i> : Purdue CS course-planning tool; built at BoilerMakeX hackathon	2023
	<i>NutritionAI</i> : Volumetric estimation based nutrition calculator given food images; built at HackMIT	2023
	<i>Bad Calculator 3000</i> : Converts infix notation to postfix and evaluates it using a stack; built with JavaScript/HTML/CSS.	2022
Community Involvement	Purdue CS TA Reading Group, reading <i>What The Best College Teachers Do</i>	Jan 2025 – May 2025
	InnovateHer Hackathon, <i>Volunteer</i>	2025
	Dosa Outreach Student Association (DOSA), <i>Founder & President</i>	Oct 2022 – Oct 2025
	TEDxPurdueU, <i>Chair/Member of the Design Committee</i>	Aug 2022 – Feb 2024
	Hello World Hackathon, <i>Organizer in the Design Committee</i>	Aug 2022 – Aug 2023
References	Dr. Voicu Popescu	
	Associate Professor of Computer Science at Purdue University, Email: popescu@purdue.edu.	
	Dr. Daniel G. Aliaga	
	Associate Professor of Computer Science at Purdue University, Email: aliaga@purdue.edu.	
	Dr. Jeffrey A. Turkstra	
	Associate Teaching Professor of Computer Science at Purdue University, Email: jeff@cs.purdue.edu.	
	Dr. Christopher K. May	
	Assistant Teaching Professor at Purdue University, Email: may5@purdue.edu.	