SHASHANK SHIVASHANKAR

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EDUCATION

University of Washington, Seattle, Washington **2022 - 2024**
MS in Electrical and Computer Engineering

B.M.S College of Engineering, Bengaluru, India **2016 - 2020**
BE in Electrical and Electronics Engineering

FILMOGRAPHY

Monkey On a Bridge - 2024

- *Writer and Director*
- *Phase 1 Editor*

RESEARCH INTEREST

- *Hybrid filmmaking and storytelling. Development of next-gen neurocinema and video interfaces*
- *Studying the ethical implications of media and technology on society, including how they influence public perceptions, behavior, and integration of technology with artistic expression*

RESEARCH PROJECTS

From The Eyes Of... June 2024

Conceptualized and developed an motion design mechatronic art installation exploring the perspective of the first water molecule amidst worldly drama. Applied user-centered design principles to create an intuitive and engaging user experience, achieving seamless interaction between the autonomous levitating Arduino powered conch and the mobile structure. Utilized Movesense wearable sensors to capture 5 different body movement signals and translate Kuchipudi dancer movements into real-time data driven responses within the structure and created an expressive interaction where liquid from the conch impacts a wobbling base, enhancing user engagement through kinetic and fluid dynamics.

The Yakamoz - (Perspective)^3 June 2024

Created an immersive user experience through the integration of 3D video-portraiture, hybrid video techniques, and experimental audio-visual narratives using various electronic devices, including 3 projectors, printers, cameras, and skateboard to portray my self reflection on my nostalgias

Network on Chip for multiprocessors March 2023

Designed a Network on Chip with a 5 staged router pipeline to establish communication between two microprocessors and achieved a speed of 125Mhz. Optimized the PPA, with clock speed of 8 ns area to 45279 um^2 and power consumption to 15 mW and scaled the network into 5x5 mesh topology with adaptive routing technique

Mixed-precision Block QR on CUDA – Amazon Lab 126 Capstone Project May 2023

Development of CUDA C++ to perform parallel computation of mixed-precision block QR decomposition on a NVIDIA GPU architecture based on Householder Algorithm. Analysis of computation through the N-Sight system and compute. Verified correctness of mixed-precision block QR algorithm using a set of test matrices of varying sizes and properties

EXPERIENCE

DXARTS, University of Washington, Seattle, Washington **Oct 2024 - Present**
Assistant Creative Technologist

Assist in the development and implementation of research projects focused on 3D multimedia art, utilizing technical skills in software and hardware integration, such as 3D printers, FabricationLab, projection systems, and motion-capture devices. Worked alongside interdisciplinary teams to develop, implement, and test creative technology solutions, focusing on real-time processing, sensor-based interactions, and projection mapping techniques. Utilize fabrication tools, such as 3D printers, laser cutters, and CNC machines, to prototype components for interactive installations and research projects in the DXARTS FabLab

DXARTS, University of Washington, Seattle, Washington **Nov 2023 - May 2024**
Research Assistant

Development of experimental models to create an audiovisual ecosystem using the movesense body tracking sensors on the body of dance performers. The use of sensors enables the performers to carry out a space-time reconfiguration of the forest based on its sounds, which has the body as its axis, and movement and time as its organizing principle. Utilize the incoming signals to process data in TouchDesigner and SuperCollider, creating an immersive output experience.

Silicon Systems Research Laboratory, University of Washington, Seattle, Washington
RTL Engineer Practical Trainee – Project PCIe 2.0 **Jun 2023 - Oct 2023**

Researched in the field of PCIe 2.0 high-speed IO design. Generated Verilog code through Python using MIGEN and litex libraries for frontend and Core of the PCIe IP core, which currently includes AXI MMAP, DMA, Crossbar, Controller, TLP Packetizer and Depacketizer connected to the physical layer and ensuring efficient and reliable communication between devices

B-Automate, Bengaluru, India **Dec 2020 - Mar 2021**
Assistant Product Designer - Electrical Engineering

Assisting in the design of prototypes, including PCB designs, hardware models, and interactive interfaces. Conducting research to understand user needs and integrating feedback into product features.

TECHNICAL SKILLS

- *Programming Languages: Python, C, C++, System Verilog*
- *Tools: Adobe Creative Cloud/suite, Premiere Pro, Illustrator, Procreate, Photoshop, Figma, Sketch, TouchDesigner, SuperCollider, Adruino, Rhino3D, Creative Direction, Linux*

HONORS/AWARDS

2024 IHeartLibraries Student Video Contest - 2nd place, UW, Seattle *May 2024*
DELTA CHI FRATERNITY |Founding Father of Washington Chapter *Oct, 2023*
Alumni Relations officer, Brotherhood Chairman - DELTA CHI FRATERNITY *Dec, 2024*
Carnatic Sangeetha(Musical) Thala Vadya (Percussion instrument) Excel, India *Aug 2009*
Official Selection of the Short Film – BLACK& at the Psychedelic Film Festival, NYC *Feb 2019*

REFERENCES

Dr. Juan Pampin - pampin@uw.edu
Dr. Afroditi Psarra - apsarra@uw.edu

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