ARYAN SAINI

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EDUCATION

IIIT-Delhi, New Delhi, India *August 2015 - May 2019*
Bachelor of Technology (Electronics and Communications Engineering)
Undergraduate Thesis: **Designing Wearable Trinkets and Toolkits**

RESEARCH INTERESTS

Human-Computer Interaction (Construction Toolkits, Novel Interactions, Fabrication, Virtual Reality, and Storytelling)

WORK EXPERIENCE

Microsoft Research India, Bengaluru June 2019 - Dec 2019
Research Intern *Advisor:* ***Dr. Manohar Swaminathan***

· Worked on creating accessible solutions for People with Vision Impairments in Global South.

- Designed an application and evaluation study for PVIs to improve their health while immersed in an exploratory scenario incorporating Spatial Audio
- Worked on creating accessible games for enhancing numeracy among children.

Weave Lab, IIIT-Delhi, New Delhi January 2018 - May 2019
Undergraduate Researcher *Advisor:* ***Dr. Aman Parnami***

· Worked on my undergraduate thesis titled "Designing Wearable Toolkits and Trinkets".

- Designed input interactions with jewelry using Research-through-Design approach. [CHI 2019]
- Created a construction toolkit for building controllers for Virtual Reality using LEGO Bricks. [CHI 2019]
- Designed a block-based authoring tool for creating multimedia storytelling experiences. [UIST 2019]

PUBLICATIONS

[1] **Saini, A.**, Mathur, K., Thukral, A., Singhal, N., Parnami, A. 2019. Aesop: Authoring Engaging Digital Storytelling Experiences. Adjunct Proceedings of **UIST 2019**. doi>10.1145/3332167.3357114

[2] Arora, J., **Saini, A.**, Mehra, N., Jain, V., Shrey, S., Parnami, A. 2019. VirtualBricks: Exploring a Scalable, Modular toolkit for Enabling Physical Manipulation in VR. Published in Proceedings of **CHI 2019**. doi>10.1145/3290605.3300286

[3] Arora, J., Mathur, K., **Saini, A.** Parnami, A. 2019. Gehna: Exploring the Design Space of Jewelry as an Input Modality. Published in Proceedings of **CHI 2019**. doi>10.1145/3290605.3300751

TECHNICAL SKILLS

Programming Languages	C, Embedded C, Python, JavaScript and Verilog
Tools	OnShape, Blender, AutoCAD, Git, MATLAB, Wireshark, LaTeX, Xilinx, LTSpice
Hardware Skills	3D Design and Printing, PCB Fabrication, Communication Protocols
Multimedia and Design	Adobe Premiere Pro, Photoshop, Illustrator, After Effects, Sketch, Audacity and Fritzing

SELECTED PROJECTS

CycloStroll: An Immersive exploration of Neighborhood via Spatial Audio
Worked on developing an engaging cycling experience for VIPs, which centralizes enjoyment and playfulness over fitness. We incorporated spatial audio along with an augmentating a gym bicycle to build our solution. We developed an Android app based on Google Maps API, which supports a free roam experience encouraging users to explore the real world while working on their fitness.

Aesop: An Authoring Tool for Creating Multimedia Stories
Created an authoring tool for augmenting conventional storytelling practice of narration with multimedia. With our tool a storyteller can create an expressive storytelling experience for their audience by integrating sound effects, animations, actions by a robot, lighting and wind simulations. Our work lowers the threshold to create such experiences by leveraging block-based programming to map the actions to the keywords of a story.

VirtualBricks: A LEGO based Toolkit to build controllers for Virtual Reality
Designed a toolkit which leverages the moudularity and scalability of LEGO to offer a set of special bricks, each having a different functionality, to create expressive match for objects in a Virtual Reality Environment. These bricks enabled day-to-day interaction performed by humans to be translated to virtual reality.

Gehna: Exploring the Design Space of Jewelry as an Input Modality
We combined perspectives from the fields of jewelry design, input techniques, and wearable computing, along with our hands-on study of a sample set of ornaments to formulate the design space of jewelry-enabled input. We prototyped our input techniques through suitable sensing methods, implemented a set of applications to demonstrate the versatility of the platform.

RESPONSIBILTIES & MISC.

- Reviewer for **CHI 2020** Student Game Competition
- Organizer for Delhi Mini Maker Faire
- Workshop Instructor for Electronics Club at IIIT-Delhi

AWARDS

- SIGCHI Student Travel Grant for attending **UIST 2019** worth $1800.
- Selected and Sponsored to present at Snap Creative Challenge at **ACM IMX 2020**.

RELEVANT COURSEWORK

Wearable Applications, Research, Devices, and Interactions (WARDI), Robotics, Embedded Logic Design, Computer Architecture, Computer Networks, Radar Systems