Shib Shankar Sahoo

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Education

Year	Degree/Qualification	Institute
2012-2017	BS Physics	Indian Institute of Technology, Kanpur
2011	Class XII – CHSE	College of Basic Science & Humanities, BBSR
2009	Class X – CBSE	Vikash Residential School

Technical Skills

Visual Design	Adobe Creative Suits (Photoshop, Illustrator , InDesign), Corel draw, Sketchbook
3D Modelling, Animation	Solid works, Inventor, 3dsmax, Cinema 4d, Blender, Mudbox , ZBrush, ToonBoom, Flash, Keyshot
New media and VFX	Unity, Adobe Premiere Pro, Adobe Aftereffects
Programing	C, Python, HTML, CSS, JavaScript, jQuery, Bootstrap
UI/UX	Balsamiq,
Machines and Hardware	Ardunio, Lathe, Milling, Drilling Machine, CNC Machines, small-scale metalsmithing

Internships / Projects

Summer Intern, Frugal Innovation in Design and Technology (June'16-Ongoing)

- Project envisions the intersection between affordability of product and innovation in design
- Innovated the mechanism of an animatronic hand simulating the mechanism using solid works
- Fabricated the product using Laser machining with micro meter precision
- Designed the Input using flex sensor embedded to amputee's arm which can drive the servo of prosthetic limb
- Designed the feedback using a series of vibration motors controlled and mapped it with the pressure sensors

Summer Intern, Agilo technologies (May'16-June'16)

- Conducted an extensive user research for feedbacks simultaneously iterating the product, evaluated the usability heuristics
- Worked on the form development methods to make it portable and usable.
- Designed infographs, product specification, banners, social network advertisement campaign for the product launch
- Directed the campaign theme in addition to the color scheme and product aesthetics
- Improved UI to work with various device screen sizes and fixed HTML, JavaScript issues

Summer intern, **Yukti, IIT Kanpur** (Supervisor - Dr. Koumudi Patil, IIT Kanpur) (May'15-July'15)

- Participated in the process of skill development and upgradation programmes for those engaged in traditional crafts and arts
- Studied existing *Banrasi* toys Conceptualized the mechanisms for *hilanta* (two string pendulum), Pattern making toys and unfolding machine
- Designed an advanced ratchet mechanism to convert periodic oscillations driven by tension in strings to continuous rotations
- Made various low-fidelity prototypes for workshop which focused on *Banrasi* artisans to help them understand the mechanisms.

Project – Mechanical tinkering kit design (Guide - Prof. Neeraj Sinha, IIT Kanpur) (January'16-April'16)

- Designed and fabricated a mechanical kit product for the age group(9yrs above) to help them tinker, play and learn
- Developed a thorough understanding of children cognitive process, STEM learning and impact of tinkering on creativity
- Invented three dimensional *tangram* fit and play kit which consists of only 3 type of sticks whose combination could automate the objects
- Developed a web application using html, css and java script which could simulate tangram geometry before the physical form
- Fabricated high fidelity prototypes of five possible configurations namely Theo jansen strandbeest, Turtle , Cat , Swan, Humming bird

Project – Grain segregation simulation Software design (Guide – Prof. Ishan sharma , IIT Kanpur) (March'16-April'16)

- Designed a simulation software interface for a binary segregation of grains using multiple boundary condition and initial state
- Prepared task flow, user persona and Information architecture
- Designed the GUI(Graphical user interface) for the simulation software using Balsamiq UI
- Explored software platforms (LIGGGHTS and LAMMPS) and Python libraries (Tkinter and Qt Designer)

Project – Next generation Social Search Engine Design (Guide - Dr. Koumudi Patil, IIT Kanpur) (January'15-April'15)

- Designed an application which can enhance usability through Navigation based search, short range social search and minimal search.
- Collected data using interview and , analyzed the focus groups , dedicatedly analyzed the problem with numerous brainstorming
- Organized massive data into smaller groups using Affinity Mapping as a part of ethnographic research and derived insights from the pattern
- Devised the value proposition map from the derived insights and designed the wireframes of the final concept

Project – Numerical simulation of Rayleigh Benard convection rolls (Guide - Dr. M.K Verma, IIT Kanpur) (January'15-April'15)

- The project consisted of numerical solutions of the Rayleigh Benard problem.
- The coupled Nonlinear Navier's Stokes and diffusion equations were linearized by Galerkin truncation which were than numerically solved
- The numerical solutions were animated using Python library Matplotlib to observe the formation and reversal of convection rolls

Project –Illustration book design (February'14-February'15)

- Authored and designed an illustration book, prepared story board, designed characters and environment
- Worked on the composition and harmonizing the series with singular color scheme and minimal line weight
- Explored the other applications such as cards, packages and calendar design using Photoshop , Illustrator and InDesign

Project –Wolverine claws design (Guide-Prof. Kantesh Balani, IIT Kanpur) (January'14-April'14)

- The manufacturing processes used to consummate the project are Welding, Brazing, Forging and Sheet Metal Work
- Simulated the product locking and retracted mechanism using Autodesk inventor

Project – IIT Kanpur Rebranding (Guide – Prof. Shatarupa Roy, IIT Kanpur) (December'14)

- Visual branding of stationary collaterals, institute stamp, Business cards, Files, Notepads etc. using Photoshop

Project - Mechanical Spirograph | Manufacturing Processes-I (Guide - Prof. Shantanu Bhattacharya, IIT Kanpur) (August'13-November'13)

- The machine manufactured can produce mathematical roulette curves of the variety technically known as *hypotrochoids* and *epitrochoids* upon rotating a handle
- The project was engineered using manufacturing operations like Lathe, Drilling, Shaping and Milling.
- The spirograph could draw multiple curves over hundred configurations.

Freelance Projects

Greenlit	Brand identity design, Business card and flier design
Whatsonrent.com	Creative campaign advertisement, Digital media promotional ad design, Poster design

Position of Responsibility

Coordinator, Animation Club, Films and media council (July'14'-June'15)

- Conducted fourth five days summer workshop and helped students (sophomore and doctoral fellows) to learn Autodesk 3ds Max
- Conducted workshop on 2D animation, VFX and basics of story boarding
- Led a team of 12 members consisting of animator, lighting artist environment designers, and modeling artist to work on club projects
- Created online game platform for counter strike using known environments ,short animation movies, 3D typography
- Learnt camera rigging, Environment design, Key frame animation, Particle effects, Curve editing, Camera tracking, Chroma key, Audio design
- Organized frequent workshops in campus, Introduced VFX software e.g. Adobe After effects , Blender , Cinema 4D for the first time

Secretary, Fine arts Club IIT Kanpur (July'13-March'14)

- Responsible for organizing various hall and club level workshops to increase students in club and promote *artistic nature of individual*
- Organized various *Art Exhibitions*, decorated room with *pencil sketch,3D pixel art, collage, thread and nail art and haunted environment*
- Participated in workshops on *Water colors, Spray Painting, Digital Art, Pencil Sketching, Colors, Back Drop Making, Warli Panting etc.*
- Gave Arts Performance to campus community and motivating them for Arts and Crafts
- Taught Pencil Sketching sand art, shadow art, speed art, wall painting, charcoal sketching, origami, digital arts, to the new batch

Extra-Curricular Activities

Art and Design	• Secured 1st position in vogue costume Design Team 2012 • Bagged 2nd Prize in Art Marathon at Mood Indigo-2014 • MAAC certified animator and modeling artist
Academics	• Rural mathematics Olympiad fellow • National science congress fellow
Martial arts	• Tae Kwon Do yellow belt
Miscellaneous	• Participated in events of Robotics in Takneek'12 (Intra College Technical Festival) • Participated in setting new Guinness World Record in most number of people solving Rubik's Cube in 1 hour

Relevant Courses

Classical electrodynamics	Fundamentals of Graphics	Introduction to electronics
Computational Physics	Special Studies in Design	Introduction to electrical engineering
Classical mechanics	Creative Visualization	Fluid mechanics and rate processes
Order and chaos in nature	Art criticism: Theory and Practice	Manufacturing Processes (I and II)
Mathematical methods-1	Modern Art	Engineering Graphics
Nuclear and reactor physics	Art of video making	Thermal Physics
Lasers and its application	Sociology of development	Quantum Physics
Quantum mechanics	Far eastern Cinema and its appreciation	Statistical mechanics
Optics	Fundamental of computing	Relativity
Order and chaos in nature	Learning , Memory and cognition	Physics of universe

Design Research tools

Affinity Mapping	Card Sorting	Ethnographic Study
Interview	Persona making	Heuristics evaluation