

# Arvind Bhallamudi

## UX Designer and Strategist

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Boston, MA

Strategic researcher and designer with 7+ years of experience working in climate-tech, medical devices, and ed-tech. I help organizations build products, services, and experiences toward planetary solutions and human well-being.

Some examples of my innovation and impact include:

- Led the design research and UX strategy for a fusion energy startup, Xcimer, supporting a \$100M Series A.
- Founded an biodesign initiative, MycoType Materials (\$12,000 grant), for regenerative materials in prototyping.
- Developed 3 medical devices at IIT Bombay, including a prosthesis and glaucoma screener (patent granted).

## PROFESSIONAL EXPERIENCE

### BIG DREAMS STUDIO

Providence, RI ▪ 2023 – 2025

#### Design Strategist (2024 - 2025)

Worked closely with CXOs, production managers, directors, in internal and external teams across 12+ projects, bridging UX research and UX design for a Fortune 500, tech startups, nonprofits, and small businesses.

- **Rhode Island Foundation:** Led the research and strategy for a two-day convening session to engage 50+ of nonprofits in cross-sector collaboration, co-designing capacity building efforts with the RIF leadership team.
- **Possibility Ocean'25:** Launched and built an 'Ocean Futures Toolkit' with a content library of 8+ drivers, 100+ trends, and future contexts to equip diverse audiences; and co-hosted the Possibility Ocean'25 conference.
- **Collins Aerospace Wingwalker:** Led 7 qualitative interviews and data synthesis with pilots, marshalls, turn coordinators; and discovered new opportunities to reduce wingtip collisions and optimize ground movement.

#### Strategist (2023 - 2024)

- **Xcimer Energy Corporation:** Led the competitive positioning, UX research and fusion-centered storytelling to design content and interfaces for a website, investor decks, and infographics; supporting a Series A (\$100M).
- **Collins Aerospace AIX ADAPT™:** Worked with teams to design, develop and exhibit 3 mobile and tablet applications for passengers and flight crew, highlighting brand, accessibility and custom service requests.
- **Overproof:** Led the qualitative research and brand system design, heading 8 interviews with CEOs, regional managers, and salespeople, synthesizing user segments and KPI's in route-to-market AI workflows for F&B.

### MYCO-TYPE MATERIALS

Boston, MA ▪ 2023 – Present

#### Principal Investigator

Funded by the RISD Somerson Sustainability Innovation Fund and Mark Harrison Grant (worth \$12,000) and supported by the RISD Edna Lawrence Nature Lab, CoWorks Interdisciplinary Lab, and ID Department.

- **Myco-Material Library:** Achieved 2-3x higher compressive strength in custom myco-sheets compared to traditional mycelium blocks. Formulated 3 custom biofabrication processes with local waste streams and fungi to grow carbon-negative, non-toxic and compostable raw materials and objects for students and educators.
- **Biodesign Content:** Launched an open-source website resource and conducted a series of workshops and talks reaching 170+ students, educators and makers at the Rhode Island School of Design, Brown University, Autodesk Research Connections, EcoLaunch Accelerator, and through quarterly free online workshops.

### RISD x HYUNDAI MOTOR GROUP

Providence, RI ▪ 2022 - 2023

#### Research Fellow (2023)

- **Autonomous Vehicles and Future Spaces:** Selected as a research fellow through the 'Kia x RISD' studio, where I developed mycelium-based furniture inspired by speculative mobility and ecological biophilia.
- **Biomimicry Research:** My study focused on the biodesign and biofabrication of fungi-based furniture and interior products such as lamps and planters that are sustainable, lightweight and fire-resistant.

#### Assistant Curator (2022)

- **Sustainable Futures Exhibition:** Helped lead a team of 6 to curate, design, organize and launch a 2 month exhibition, developing written and visual content for print and social, for the academia - industry partnership.
- **Tech Landscapes Studio:** Supported participants and faculty with using GPS, weather stations, microphones, underwater drones, and macropod photography during ecological field research at Narragansett Bay, RI.

## BIODESIGN CHALLENGE

New York City, NY ▪ 2024

## Grant Writer

- **STEM Action Grant:** Proposed and secured funding from the STEM Action Grant 2024, worth \$5,000 and compiled a list of 60+ potential grants through National Science Foundation (NSF) and CSR programs.
- **Resource Library:** Curated 200+ papers, articles and resources across energy, materials and food systems.

## RHODE ISLAND SCHOOL OF DESIGN

Providence, RI ▪ 2022 - 2023

## Graduate Instructor

- **CoWorks Interdisciplinary Lab:** Conducted 100+ trainings and consultations for team members, students and faculty on four 3D printing stations, laser cutting, and vacuum forming, created a 20 pg guide to 3D printing.
- **Edna Lawrence Nature Lab:** Conducted weekly trainings and workshops for students, faculty and staff; experimented with new biomaterials, and created a labelled system for a material library with 120+ samples.

## DIMIOUR DESIGN STUDIO

Mumbai, India ▪ 2019 - 2021

## Founder

- **3D Printing Venture:** Formed a six-person team to provide services in mechanical design and 3D printing. Drove a 150% increase (2.5x) in quarterly revenue by implementing educational services and social campaigns.
- **CAD and Additive Services** Successfully completed 40+ 3D design and 3D printing projects for local startups, brands and individuals; heading the design, fabrication and delivery of 600+ parts across 10+ cities in India.
- **Industry Workshops:** Diversified to educational markets and conducted 2 hybrid-format workshops in partnership with Imaginarium and Autodesk, certifying 34 registered students in 'Design for 3D Printing'.

## CURIOSITY GYM

Mumbai, India ▪ 2020 - 2021

## Lead Product Designer (2021)

- **Creative Direction:** Led the design direction across LMS software and website for the ed-tech startup, and headed 3 marketing campaigns that boosted annual traffic by 30-35%, achieving 1<sup>st</sup> page rankings on SEO.
- **COVID-19 Emergency Response:** Built 100+ COVID-19 protective equipment overnight, and donated to KEM as an emergency response. Worked with a team to develop a touchless delivery box with a mobile application.

## Design Instructor (2020 - 2021)

- **Design Pedagogy:** Created and conducted courses, workshops and mentorships on design thinking, product design, 3D modeling and 3D printing for 500+ K-12, undergrad and grad students across 5+ schools.
- **Science Kits and Exhibits:** Designed and fabricated an arduino-based robotics kit and 2 science exhibits.

## NATIONAL INSTITUTE OF INTERDISCIPLINARY SCIENCE &amp; TECHNOLOGY

Trivandrum, India ▪ 2019

## Freelance Designer

- **SMART Foundry:** Developed the spatial layout, enclosure and CAD for 4 units: 3D printing, molding, melting, and sand-reclamation part of an IoT-based, compact foundry system that can be operated by 1-2 personnel.
- **Multi-Purpose Dashboard:** Designed a intuitive interface to track, control and optimize workflows to measure errors, improve throughput and turnaround efficiency, and access safety features of the foundry system.

## BIOMEDICAL ENGINEERING &amp; TECHNOLOGY INNOVATION CENTER, IIT BOMBAY

Mumbai, India ▪ 2018

## Mechanical Engineering Intern

- 6 month internship working with different teams of doctors and engineers to build and test 3 medical devices:
- **Glaucoma Screener:** Created a novel, head-mounted device that is convenient, accurate and portable, and can be used to check IOP (intraocular pressure), preventing deterioration in eye-related diseases (*patented*).
- **Transfemoral Prosthesis:** Supported the team with design and manufacturing of a parametric prostheses for 4 patients, comparing conventional Plaster-of-Paris (PoP) sockets with the developed parametric prostheses.
- **Heart Surgery Tool:** Developed and fabricated a tool to check aortic valve diameters, and cut and fold the pericardium tissue into an artificial valve, successfully used in 15+ heart surgeries at Fortis Hospital, Mumbai.

## SHENOY STUDIO, IDC SCHOOL OF DESIGN, IIT BOMBAY

Mumbai, India ▪ 2017

## Industrial Design Intern

- **Rattan Palanquin (Cane Palkhi):** Worked with local cane craftsmen to craft a lightweight, flexible yet rigid, eco-friendly palkhi that integrates native processes with stainless steel. The product reduced the load carried by pilgrim porters by 60%. Currently in use at holy sites such as Vaishno Devi and Elephanta Caves in India.

## PATENTS & PUBLICATIONS

<b>Designboom Magazine</b> ▪ Myco-Type Materials	2025
<i>Article "Myco-Type Creates Mycelium Blocks and Sheets with Sawdust, Coffee Grounds and Local Waste"</i>	
<b>Headgear Ophthalmic Device</b> ▪ Symbiosis Institute of Technology, India	2020
<i>International Patent Published (WIPO: #WO2020141499), Indian Patent Granted</i>	
<b>Multi-Directional and Multi-Functional Lighting Assembly</b> ▪ Dimiour Design Studio, India	2019
<i>Indian Patent Granted (#201921050663)</i>	
<b>International Conference on Research into Design, Springer: Design for Tomorrow III</b> ▪ IDC, IITB, India	2020
<i>Proceedings "Design and Prototyping of a Head-Mounted Ophthalmic Device for Monitoring Glaucoma"</i>	
<b>Conference on Indian Patents, Copyrights, Innovations and Startups</b> ▪ PCCOER, India	2020
<i>Speaker "Publishing and Patenting in Medical Device Design and Innovation"</i>	
<b>National Conference of Indian Association of Assistive Technologists</b> ▪ Bhubaneswar, India	2018
<i>Proceedings "Parametric Design and Hybrid Fabrication Process of Above-Knee Prosthesis"</i>	

## COMMUNITY & VOLUNTEERING

▪ Co-Founder, Director of Design, cares.green	2025 - Present
▪ Climate Solutions Researcher, Biodesign Challenge	2023 - 2024
▪ Board Member, Finance Manager, RISD IDSA Chapter	2022
▪ Founding Member, Design X Health, RISD and Brown University	2021 - 2022

## SELECTED HONORS & AWARDS

▪ Research Advisor, Possibility Ocean'25 Summit	2024 - 2025
▪ Panelist and Contributing Expert, EcoLaunch Accelerator	2024 - 2025
▪ Speaker, Autodesk Research Connections	2023
▪ Principal Investigator, RISD Somerson Sustainability Innovation Fund	2022 - 2023
▪ Principal Investigator, RISD Mark Harrison Grant	2022 - 2023
▪ Design Research Award, RISD Industrial Design Department	2023
▪ Speaker, Brown-RISD Innovation Community (BRIC)	2022
▪ Fred M Roddy Scholarship, RISD Industrial Design Department	2022 - 2023
▪ Graduate Fellowship(s), RISD Industrial Design Department	2021 - 2023
▪ Corona Design Challenge Award, IDC School of Design	2020
▪ Most Distinguished Paper Award (ICoRD'20), IDC School of Design	2020
▪ Limca National Record, Maximum People Solving a Rubik's Cube (under 60 seconds)	2013

## EDUCATION

<b>Terra.do Climate Change, Learning for Action (LFA)</b>	2025
12-week, 100+ hour intensive course focused on climate science, innovation, policy.	
<b>Rhode Island School of Design (RISD)</b> ▪ Providence, RI	2021 - 2023
<b>Master of Industrial and Product Design (MID'23)</b>	
Master's Thesis: Fungi in Flux, Designing Regenerative Materials and Products with Mycelium	
<b>Symbiosis Institute of Technology</b> ▪ Pune, India	2015 - 2019
<b>Bachelor of Technology, Mechanical Engineering (B.Tech'19)</b>	
B.Tech Project: Glaucoma Screening Device for Early Detection of Eye-related Diseases	