ankur
agrawal

A Design Technologist exploring intelligent agents, programmable materials, and tangible interactions to design human-machine-material interfaces

SKILLS

DESIGN STRATEGIES AND METHODS
- User-Centered Experience Design, Mental Models, Contextual Inquiry, Qualitative Research, Participatory Design, Storyboarding, Scenario Designs, Wireframing, Sketching, Paper Prototyping, Rapid Prototyping, Usability Testing, Surveys, Wizard of Oz

DESIGN TOOLS
- Pencil and Paper, Adobe Creative Suite, Unity, Blender, Wacom Cintiq, InVision, Proto.io, Tableau, Axure, Justinmind, POP, Balsamiq, D3, Phonegap, Visio

PROTOTYPING TOOLS
- Laser Cutting, 3D Printing, Embedded Devices, Prototyping Platforms like Arduino, Edison, Galelio, Raspberry Pie, etc., Wood Working Power Tools, Interactive Materials like Thermoplastics, etc., Tangibles, Projectors, Oculus

TECHNICAL
- Algorithm Design, Artificial Intelligence, C/C++, Java, Python, Ruby/Rails, SQL, PHP, HTML, CSS, Javascript, Coffee Script, Type Script, C#, Visual Basic, Shell Scripting, ASP.net, GLSL, OpenGL, OpenCV, AngularJS

EDUCATION

MASTER OF SCIENCE IN HUMAN CENTERED DESIGN & ENGINEERING (HCDE) | 2014 – 2016
University of Washington, Seattle, WA

BACHELOR OF TECHNOLOGY IN COMPUTER SCIENCE & ENGINEERING | 2008 – 2012
Jaypee Institute of Information & Technology, Noida, India

INDIVIDUAL STUDY | 2011 – 2014
Coursera, Online
Human-Computer Interaction, Critical Thinking in Global Challenges, Model Thinking, Machine Learning, Computational Neuroscience, Web Intelligence and Data Mining, Image and Video Processing

WORK EXPERIENCE

INTERACTION DESIGNER | MAY 2016 – PRESENT
User Experience Innovation (UXI) – Intel Labs, Hillsboro, OR
- Work on R&D projects to design next generation of multi-modal, AR, VR, immersive, drone, automated vehicle, smart spaces, and material experiences
- Lead design and development of intelligent agents in an interactive smart space for children
- Lead design of interactive interface for a multi-agent system of autonomous drones
- Conduct concept prototyping, sketching, storyboarding, game logic and user research; and collaborate with development teams

INTERN – UX DESIGNER | JUN 2015 – SEP 2015
User Experience Innovation (UXI) – Intel Labs, Hillsboro, OR
- Worked on an R&D project to design interactive tangible toys using RFID
- Conducted tangible prototyping, sketching and user research

GRADUATE TEACHING ASSISTANT, DESIGNING INTERACTIVE SYSTEMS (HCID 510) | MAR 2015 – JUN 2015
MHCI+D, University of Washington, Seattle, WA
- Guided a class of 28 graduate students in design and interactive technologies, favoring design thinking in lieu of implementation concerns
- Graded assignment and project submissions per instructions of faculty members

ENTREPRENEUR | AUG 2011 – JUN 2014
Trionix Solutions, Ghaziabad, India
- Led a team of 10 designers and developers
- Fulfilled a dual role as a UI engineer and a full-stack developer
- Executed 30+ projects of graphic design and responsive web and mobile applications for clients in USA, UK, China, Singapore and India

HEAD OF DEVELOPMENT | JAN 2014 – MAR 2014
InteracTiV LLC, Boston, MA
- Designed/developed MVP of an interactive Chrome extension for YouTube, which allows users to add annotations and stories to the videos

SOFTWARE ENGINEER | JUN 2012 – JUN 2014
MTree Software Private Limited, Noida, India
- Designed/developed a hybrid mobile application, IceBreaker – a networking application which facilitates spatial neighbor search and promotes in-person interactions at events
- Designed/developed a webcam based 3D face reconstruction and virtual glasses try-on system
- Built a paper touch pad to detect finger touch with webcam

UI/UX ENGINEERING INTERN | MAY 2011 – JUN 2011
ICU INDIA, Jaipur, India
- Designed/developed a web application, EManage – a management tool which enables supervisors to track employee records such as work hours and tasks assigned

LEADERSHIP EXPERIENCE

TREASURER | 2015 – 2016
HCDE Graduate Student Association, Seattle, WA
- Managed accounts, administrative funds and budgets
- Planned design activities and events

VOLUNTEER CHAIR | 2015
ACM International Conference on Multimodal Interaction (ICMI), Seattle, WA
- Created and maintained the website of the conference
- Coordinated volunteers and registration desk

JUDGE | 2015
Technology Access Foundation Academy (TAF), Seattle, WA
- Evaluated project presentations on design, technology and engineering

ORGANIZER | 2010 – 2012
IEEE, International Conference on Contemporary Computing (IC3), Noida, India
- Supervised hospitality operations, stationery, registration desk and volunteers

SELECTED PATENTS

TECHNOLOGIES FOR MOTION-COMPENSATED VIRTUAL REALITY
US 10186065 B2 | JAN 2019, EP 3519877 A1 | PENDING 2019, CN 109690386 A | PENDING 2019, WO 2018063572 A1

TECHNOLOGIES FOR PHYSICAL PROGRAMMING
US 10275222 B2 | APRIL 2019

POSITION DETERMINATION AND CONTROL WITH RADIO FREQUENCY IDENTIFICATION TAGS
US 9704003 B1 | JUL 2017, DE 112016005818 | PENDING 2018, CN 108351705 A | PENDING 2018, WO 2017105658 A1

TRANSITIONING AUGMENTED REALITY OBJECTS IN PHYSICAL AND DIGITAL ENVIRONMENTS
US 9846970 B2 | DEC 2017

DETERMINING VISUALLY REFLECTIVE PROPERTIES OF PHYSICAL SURFACES IN A MIXED REALITY ENVIRONMENT
US 20190122441 A1 | PENDING 2019

REAL-TIME LANGUAGE LEARNING WITHIN A SMART SPACE
US 20190139448 A1 | PENDING 2019

METHODS AND APPARATUS TO TRANSITION BETWEEN 2D AND 3D RENDERINGS OF AUGMENTED REALITY CONTENT
US 20190164334 A1 | PENDING 2019

PROJECTED AUGMENTED REALITY TO OBSCURE PHYSICAL OBJECTS
US 20190043262 A1 | PENDING 2018

TECHNOLOGIES FOR VIRTUAL ATTRIBUTE ASSIGNMENT REFERENCING REAL OBJECTS
US 20190043267 A1 | PENDING 2018

SELECTED PUBLICATIONS

KID SPACE: INTERACTIVE LEARNING IN A SMART ENVIRONMENT
ICMI-MLMI '18 | GLEN J. ANDERSON, SELVAKUMAR PANNEER, MENG SHI, CARL S. MARSHALL, ANKUR AGRAWAL, REBECCA CHIERICHETTI, GIUSEPPE RAFFA, JOHN SHERRY, DARIA LOI, LENITRA MEGAIL DURHAM

TANGIBLE PLAY SURFACE USING PASSIVE RFID SENSOR ARRAY
CHI Extended Abstract '18 | ANKUR AGRAWAL, GLEN J. ANDERSON, MENG SHI, AND REBECCA CHIERICHETTI

DESIGNING FOR MOVEMENT IN PUBLIC LIFE WITH ITINERANT PROBES
2016 ACM Conference on Designing Interactive Systems | DANIELA K. ROSNER, MARGARET E. MORRIS, ARIEL DUNCAN, SARAH E. FOX, KATHI R. KITNER, ANKUR AGRAWAL, AND MEI J. CHEN

SYNKU: EXPLORING THE PRODUCTION OF SENSORY OBJECTS
CHI Extended Abstract '15 | ANKUR AGRAWAL, WENVI HIDAYAT, ARAVIND RAVI, MARK STAMNES, MEISHEN YIN, AND DANIELA ROSNER

SELECTED HONORS & AWARDS

NO I IN TEAM AWARD
Anticipatory Computing Lab, Systems and Software Research, Intel Labs, Hillsboro, OR | MAY 2019
- For extra effort and hours invested to ensure the successful execution of the research studies, including creating a Unity interface and installing sensors in the space

NO I IN TEAM AWARD
Anticipatory Computing Lab, Systems and Software Research, Intel Labs, Hillsboro, OR | FEB 2019
- For driving new usages, architecture, and application; and developing working prototypes

BEST PROJECT DEMONSTRATION
Intel Labs, Hillsboro, OR | SEP 2018
- For innovative prototypes of ambient computing at Intel Labs' Tech insights open house

DIVISION RECOGNITION AWARD
Systems and Software Research, Intel Labs, Hillsboro, OR | MARCH 2018
- For implementing a complete prototype to capture, process and display immersive light fields; and guiding the development through user experience research

GRADUATE INNOVATION AWARD
Dept. of HCDE, University of Washington, Seattle, WA | JUN 2016
- For research work and projects during master's degree program

CHEETAH
Intel Labs, Hillsboro, OR | SEP 2016
- For a prototype designed and developed in record time to define a focused vision of smart home spaces for kids

BEST PROJECT DEMONSTRATION
Intel Labs, Santa Clara, CA | SEP 2015
- For innovative prototypes of tangible toys at Intel Labs' open house

JED-I PROJECT CHALLENGE
The Joy of Engineering, Design and Innovation (Jed-i), Bangalore, India | JUN 2012
- Second place for innovation in creating a touch interface prototype as a capstone project for bachelor's degree