

Designer, Researcher, Technologist | Enhancing creativity through computation

EXPERIENCE

RESEARCHER | MIT MEDIA LAB (USA) | 2012-19

PhD researcher in the Object-Based Media group combining design theory, cognitive psychology and computer science to develop unconventional computational design tools for the early stages of the creative process

- > Developed the Looking Sideways exploration tool, Reframe creative prompt tool, Design Daydreams AR tool and Emotive Modeler CAD tool as applied explorations into how emotions, ambiguity and serendipity can be integrated into computational tools that enhance our creativity by provoking us to consider concepts in new ways and generate radically new ideas
- > Built communities and discourses around design-led technologies and tools through the Embodied Potentials Salons and Tools of Design DRS18 conference track
- > Managed small teams of students and contractors funded by acquiring various grants and awards
- > Continual communication, collaboration and thought leadership across disciplines, institutions and organisations through demonstrations, workshops, writing and invited talks

RESEARCHER | IDEO CAMBRIDGE (USA) | 2016

Researcher in residence exploring the relationship between designers and the intelligent, computational machines they use in their creative process

DESIGN ENGINEER | GILLETTE (UK) | 2009-12

Design engineer in the R&D group focusing on exploring new product and technology opportunities through leading upstream design research and prototype development

- > Led design research and design strategy for new product line, including creating product design language, and developing and testing functional prototypes
- > Conducted foundational design research into form, material and ergonomic interactions and synthesised into guidelines for product development strategy
- > Developed new tools and methods to enhance creativity and quality in Gillette's design capability through internal system development and external collaborations

EDUCATION

MIT MEDIA LAB (USA) | 2012-19

PhD & Masters in Media Arts and Sciences (SM)

ROYAL COLLEGE OF ART & IMPERIAL COLLEGE (UK) | 2007-09

Masters in Industrial Design Engineering (MA) & Mechanical Engineering (MSc)

UNIVERSITY OF BRISTOL (UK) | 2003-07

Masters in Aeronautical Engineering (MEng, First class honours)

CAPABILITIES

DESIGN & INNOVATION

- > Human-centered design research, concept generation and technology development
- > Prototyping (visual and electro-mechanical)
- > Solidworks, Rhino, Adobe creative suite
- > Arduino, Processing, Python, Html, JavaScript

RESEARCH

- > Qualitative and quantitative user research methods
- > Extensive literature knowledge

COMMUNICATION

- > Published academic papers and articles
- > Invited talks, panels and demos
- > Teaching classes and workshops

COMMUNICATION

PUBLICATIONS

An Ontology of Computational Tools for Design Activities | *Design Research Society* | 2018

Inviting Feedback | *Journal of Design and Science* | 2018

Humans, Machines and the Design Process | *The Design Journal* | 2017

The EmotiveModeler | *CHI* | 2015

SPEAKING

Designing the Future Designer's Toolbox | *Reaktor Breakpoint conference (Finland)* | 2018

Digitally Enabled Creativity | *Design Museum at Boston's Hubweek (USA)* | 2017

Humans, Machines and the Future of Industrial Design | *SXSW Interactive conference (USA)* | 2017

TEACHING

Devices of Design | *Royal College of Art (UK)* | 2017

Kaufman Teaching Certificate | *MIT (USA)* | 2016

Design Objects (TA) | *MIT (USA)* | 2016

Many computational tool design workshops | 2015-19

COMMUNITY

LEADERSHIP

Royal Society for the Arts Fellow & Ambassador | 2018-20

Design Research Society Tools of Design track chair | 2018

Embodied Potentials Salons founder | 2015-18

FELLOWSHIPS & AWARDS

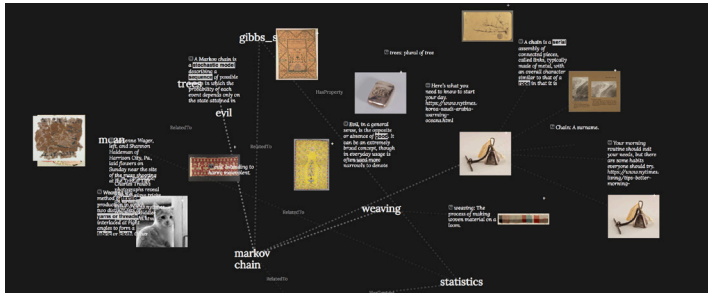
Kennedy Memorial Trust Research Scholarship | 2018

James Dyson Foundation Bursary | 2009

Royal Commission of the Exhibition of 1851 Design Studentship | 2008-09

Portfolio Summary 2008-18

Computational creativity tools | Responsive materials | Emotive products



LOOKING SIDeways SEARCH TOOL | 2018-19

An online tool that draws from semi-random, loosely related, diverse sources to provide unexpected responses to search queries and provoke new associations and ideas



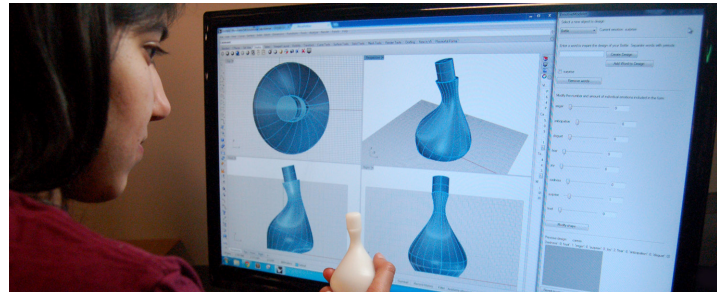
REFRAME CREATIVE PROMPT TOOL | 2016-19

An online tool that uses text from a designer's own notes and readings to generate creative prompts that juxtapose concepts in unexpected ways and provoke new ideas



DESIGN DAYDREAMS AR TOOL | 2018-19

An interactive table and low-tech AR 'post-it note' that projects digital inspiration images onto objects in the real world to provoke new associations and ideas



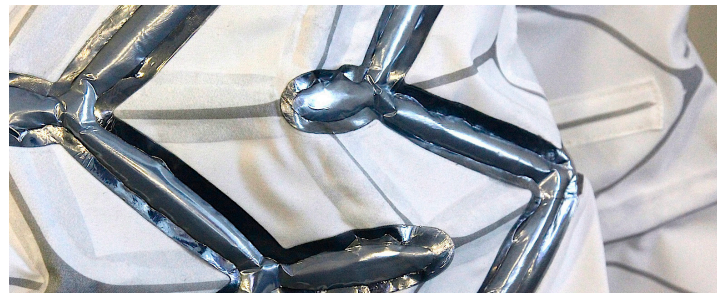
EMOTIVE MODELER CAD TOOL | 2013-15

A CAD tool that uses only descriptive adjectives and emotions to design objects whose forms communicate emotive character



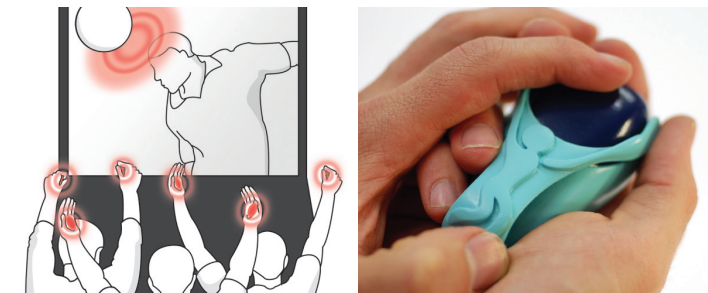
DESIGN DATA MACHINE | 2015-16

Tools to collect data on and investigate any commonalities in our perceptual and psychological experiences of the physical design properties of objects



AWAKENED APPAREL | 2013-14

A shape-changing skirt that uses novel material technology to integrate soft actuators into clothing that can transform its functionality and emotional expression



SPECTATE EMOTIVE EXPERIENCE | 2009

A product that enhances the experience of remote viewing of live events through providing emotionally affective tactile interactions



REPLENISH PRE-CYCLING SYSTEM | 2008-09

A system and set of products designed to make reusing and refilling containers more economical for manufacturers and convenient for consumers