Ben Snell

is a software engineer and interaction designer
specialized in creative applications of emerging technologies.

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EDUCATION

2015-2017 **Experiential Art & Design, Bachelors of Arts, Carnegie Mellon University**
Self-defined from the start, my major is the culmination of rigorously interdisciplinary studies pursuing the expertise to develop interactive tools, systems and experiences across virtual and tangible media.
+ Capstone Project: *Sketches of Self: On the Potential of Introspective Algorithms.*
+ University Honors, 4.0 GPA

2013-2014 **Psychology of Design (intended major), Brown University + Rhode Island School of Design**
Attended for one year, before leaving to develop a better context for my education.

EXPERTISE

Software Development
Languages: C, C#, C++, GLSL, Python, Javascript, Java, HTML/CSS, Bash

... for Generative Graphics
Realtime frontend interactive systems with high-performance graphics. User-centric, parametric design for content-heavy, long-lifespan installations and exhibits. CI/CD pipelines.
Frameworks: OpenFrameworks, Unity, Processing, p5.js, three.js, WebGL, JQuery, React

... for Computer Vision
Algorithm design, machine learning and data processing for realtime sensing systems (e.g. optical tracking, motion capture), statistical shape modeling, bespoke user-interfaces and imagery generation.
Frameworks: OpenCV, Tensorflow, Pytorch, Keras, Caffe, NodeJS, AWS, SQL, ELS, Docker

Experiential Design
Designing interactions (UX/UI) across physical + digital systems; Systems as ecologies. Proof-of-concept prototypes, storyboards, wireframes, user-flow diagrams. *Tools: Adobe Creative Suite (Ps, Ai, Id, Pr, Ae), G Suite*

Computational Design + Digital Fabrication
Parametric 3D modeling and rendering for product design. CAD/CAM for CNC robotics. Physical computing and IOT for personal electronics. *Tools: Rhino+Grasshopper, Fusion360, Houdini, C4D, Arduino, RPi*

Perceptual Psychology
Modeling cognitive processes and visual phenomena with biologically-inspired algorithms.
Designing agency and animacy into artificial systems.

PROFESSIONAL

2021-2023 **4D Human Reconstructionist (Senior Creative Technologist), *Amazon (Alexa Devices HumanFX)***
Designed & developed visual simulation-based software tools to aid wearable designers in evaluating earbud fit, stability & retention across populations of interest.
Built statistical shape models of human anatomy (e.g. ears, heads) from large 3D scan datasets.

2019-2021 **Creative Technologist, *Local Projects***
Developed visual software applications for interactive museum exhibits and branded marketing experiences.
Oversaw concept (prototyping, UX flows) through production (AV specifications, deployments).
Designed computer vision and machine learning algorithms for bespoke sensing systems.
Clients included Greenwood Rising, Planet Word, Manchester United, L'Oreal, ABB and others.

2018 **Innovator in Residence, *Autodesk***
As one of nine individuals selected to use Autodesk's Pier 9 manufacturing shop, I pursued self-directed research projects including creating generative AI sculptures and revealing the fingerprints of machines.

2017 **Software Developer Intern, *Troika***
Developed custom software for the London-based artist studio, including desktop applications for motion capture, algorithms for 3D model slicing and particle simulations.

2016 **Software Developer, *ATONATON***
Programmed the vision and emotional decision making system of a giant interactive industrial robot.
Named Mimus, the robot premiered at the London Design Museum's opening exhibition.

2016 **Interaction Design Intern, *IDEO Cambridge***
Reimagined the future of an industry for a world-leading manufacturer by conducting design research, concepting experiences, and fabricating physical and digital prototypes.

2014-2015 **Junior Creative Technologist & 72U Resident, *72andSunny***
Conceptualized and designed advertising brand campaigns for Google's educational initiatives.