

MOHAR KALRA

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EDUCATION

05/2021	Columbia University in the City of New York Bachelor of Science in Electrical Engineering GPA: 3.99; Summa Cum Laude	New York, NY
08/2017 – 05/2018	Georgia Institute of Technology Bachelor of Science in Electrical Engineering GPA: 4.00; Dean's List every semester	Atlanta, GA

RESEARCH

08/2021 – Present	MORTIMER HAYS-BRANDEIS TRAVELLING FELLOWSHIP <i>Creative Fellow</i> <ul style="list-style-type: none">Performing ethnographic and archival research into Estonian digital, environmental and folk cultures through a semiotic lens to reimagine interaction paradigms for encounters with digital and natural spaceDeveloping a series of interactive electronic artworks that adapt my research to imagine more transparent, expressive and ethical relationships between people, technology and nature	Tartu, Estonia
09/2019 – 04/2021	BARNARD MOVEMENT LAB <i>Student Artist-in-Residence under Guy Delancey</i> <ul style="list-style-type: none">Design AR iOS experience in Unity using C# and Python scripts to explore how users interact with their physical worldBuilt light belt controlled by ATtiny, FM radio receiver and custom VLF radio receiver to interrogate wearers' sense of presence in natureBuilt pair of goggles by reprogramming transparent OLEDs using Arduino and C to create novel visual experiencesBuilt kinetic sculpture that serially receives bitmap images from python script communicating with js chrome extensionBuilt electronic comic book using ATtiny that mechanically locks open until every page is read in order	New York, NY
05/2020 – 08/2020	COMPUTER ENABLED ABILITIES LAB <i>Student Researcher under Dr. Brian Smith</i> <ul style="list-style-type: none">Redesign Unity game environment and Parse backend to improve experimental design for novel blind navigation toolsFacilitate 10 user studies with blind users and analyze quantitative and qualitative results for paper submission to UIST 2021	New York, NY
01/2018 – 05/2018	ADAPTIVE DIGITAL MEDIA LAB <i>Student Researcher under Dr. Brian Magerko</i> <ul style="list-style-type: none">Developed wifi-enabled tangible interfaces for Tunetable platform to teach children programming principles through musicUsed Arduino and Python servers to send and receive data over OSC protocol from tangibles to Tunetable	Atlanta, GA

WORK EXPERIENCE

09/2018 – Present	MORPHOLIO APPS <i>Independent Contractor</i> <ul style="list-style-type: none">Designed Swift tool and UI to provide support for 33 new 3D model filetypes to be imported into Morpholio Trace appDesigned Swift tool and UI for users to view 3D models using custom orbital and POV camera schemesWrote Python scripts to automate the modification of 100+ 3D model .obj files in Blender for use in AR iOS appsReduced processing time for .obj files from 40 min/model to 5-10 min/model	New York, NY
05/2019 – 08/2019	KONRAD GROUP <i>Associate Consultant Intern</i> <ul style="list-style-type: none">Designed and strategized product roadmaps for 2 Fortune 100 clients' digital portals, websites and mobile appsPerformed and analyzed 70+ user interviews to develop 5 prototypes and product requirements for clients	New York, NY

05/2018 – 08/2018	JABIL, INC <i>Electrical Design Engineering Intern</i>	St. Petersburg, FL
	<ul style="list-style-type: none"> Analyzed, tested and troubleshot 4 PCBs to meet client requirements of power and voltage output for consumer appliances Designed, documented and constructed 20+ electrical harnesses for high fidelity prototype of home appliance for client Designed and executed tests of Alexa-enabled assembly's ability to recognize voice commands in various situations 	

LEADERSHIP

09/2019 – 04/2021	COLUMBIA UNIVERSITY RESIDENTIAL LIFE <i>Residential Advisor</i>	New York, NY
	<ul style="list-style-type: none"> Counseled and nurtured floor community of 32 Columbia students to help them better adjust to college life 	
11/2018 – 04/2021	DOUBLE EXPOSURE JOURNAL <i>Editor-in-Chief / Columbia University Undergraduate Film Criticism Journal</i>	New York, NY
	<ul style="list-style-type: none"> Manage publication of long-form student works of film criticism for online blog and annual print journal 	
11/2018 – 08/2020	RATROCK MAGAZINE <i>Webmaster / Columbia University Undergraduate Arts Magazine</i>	New York, NY
	<ul style="list-style-type: none"> Designed and managed Ratrock's Squarespace website in order to provide a platform for student artists 	
01/2018 – 03/2018	ARTHACKS <i>Budget Manager / Georgia Tech's First 24-hour Art Hackathon</i>	Atlanta, GA
	<ul style="list-style-type: none"> Managed \$2,300 budget to supply meals and complimentary art supplies for attendees Procured 240 free and discounted meals from 7 Atlanta restaurants to provide meals for the 40 attendees 	

PUBLICATIONS

ACADEMIC

2021	NavStick: Making Video Games Blind-Accessible via the Ability to Look Around. <i>UIST '21, October 10–14, 2021, Virtual Event, USA. ACM, New York, NY, USA, 14 pages.</i> https://doi.org/10.1145/3472749.3474768
2019	"Minimalist Dreams: On the Surrealist Films of Marie Losier", <i>Double Exposure Journal, New York</i>

LONG-FORM SEQUENTIAL ART

2020	"Close Up", <i>Self-published</i>
2019	"Novelty", <i>Good Comics, London</i>
2019	"Boxes", <i>Self-published</i>
2018	"Dolores O'Riordan", <i>Dead Singer's Society, Vol. 4, Good Comics, London</i>

CONVENTIONS

2019	Massachusetts Independent Comics Expo 2019, <i>Cambridge, MA</i>
2019	Small Press Expo 2019, <i>Baltimore, MD</i>

GROUP EXHIBITIONS

2019	"Small Things", <i>Postcrypt Art Gallery, New York, NY</i>
2018	"Fantasy", <i>Postcrypt Art Gallery, New York, NY</i>

SKILLS

Engineering: IoT, SolidWorks, digital system design, analog circuit design, motion-capture, PCB debugging, Raspberry Pi, PCB design, electronics testing, Cadence, PCB assembly, Altium Designer, digital image processing, oscilloscope, Spice

Programming: open frameworks, C, C++, Swift, ARKit, data structures, CSS, HTML, Python, Java, Matlab, Javascript, UNIX, C#, Unity scripting, Blender scripting, computer networking, Arduino, HTTP, TCP/IP, javascript

Languages: English (Native), Spanish (Intermediate), Estonian (Novice)