school of
machines

MAKING & MAKE-BELIEVE

2020 PROGRAMS

Hello World!

Welcome to School of Machines, Making & Make-Believe 2020 Programs!

Each year, after our last programs are over, we take time out to have a look around and ask ourselves, what topics feel important right now? What we see then plants the seeds from which our future programs grow. So what are we seeing right now?
The quality of human experience as priority.

People prioritize lots of different things in life and there are many reasons for doing so, from tradition to survival. But what happens if for just a moment we prioritize the quality of our own human experience?

From our own mental health and how we perceive ourselves in the world to the context in which we live, the people and the rules that surround us--what if we become the grandest observers of ourselves in all areas of our lives to understand: What is it that I need to feel like a whole human? (Change, after all, starts with each one of us.)

So let it be known, our intentions in designing our 2020 programs are aimed at trying to get us all on the same .

page and a step closer to knowing who we are and what we care about so we can use that as a driving force for how we live our lives, treat others, approach technology, and become, simply, better (healthier, happier) people.

From spending time in nature to learning to recreate the algorithms that dictate it, from thinking about the power of art and stories, and our bodies and senses, to visiting far off cultures and realising our world is even bigger than what we think we know. What can we learn from all this?

On a practical note, this year we're offering a range of program lengths, from one- two- and four-weeks. As much as we believed we would end our four-week format, these programs offer so much in terms of time with others away from what you know, time to learn, be inspired, create and to walk away with a portfolio project all your own.

Please note, we are offering hardship scholarships for our four-week programs only (six in total), however, we're also including housing and a small stipend for travel in that (scholarship winners only).

We're always listening and always learning. Come join us!

Warmly,
Rachel Uwa
Creative educator, human and artist at School of Machines

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DRONES

**7 - 12 June
In Slovakia**

SUMMARY

Inspired by Johnny Harris' Vox Border's series, this class is aimed at getting hands-on with drones and drone video footage while connecting concepts of borders, history, politics and the experiences of being human. As you can see we have lofty goals! This program will take place in rural regions of Slovakia in conjunction with the Sensorium Festival, an art and technology event which takes place yearly in Bratislava.

WHAT WILL YOU LEARN?

•How to navigate and fly a drone.

•How to capture video footage using a drone.

•Important considerations when working with drones, including what can go wrong.

•History of Slovakia, a country sharing borders with Czech Republic, Poland, Austria, Hungary, and Ukraine.

SMELL

**15 - 19 June
In Berlin, DE**

SUMMARY

Over recent years, artists more and more are beginning to explore olfaction, or the sense of smell as yet another way to engage humans in storytelling. What can gaining a deeper understanding of this oft used but not often thought about sense explain to us about the invisible forces that draw or repel us to connect with others and our overall experiences of being human?

WHAT WILL YOU LEARN?

•A deeper understanding of olfaction

•How to work with and manipulate your senses

•How to design scents

•About smell and gender.

•How to create designed experiences to tell stories engaging your audiences' sense of smell

•Collaboration with others.

CRAFTING FOOD EXPERIENCES

**22 - 26 June
In Berlin, DE**

SUMMARY

Without a relationship with food we wouldn't be alive. And yet these days, there are many more things to think about in regard to food than simply nutrition. How can we change ours and others relationship to food through playful experimentation and storytelling? How can we craft new experiences around food and eating? Join us as we contemplate and craft new experiences around the stuff we put in our mouths.

WHAT WILL YOU LEARN?

• **How to utilize food and texture for storytelling.**

• **How to translate stories into food.**

• **How to create experimental dining experiences.**

• **How to incorporate food into mixed reality experiences.**

• **Collaboration with others.**
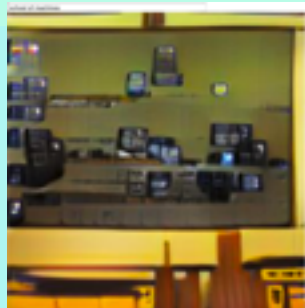
PHYSICAL MACHINES

**13 - 17 July
In Berlin, DE**

SUMMARY

While machine learning models are getting smaller, and microcontrollers are getting more computing power, machine learning is moving towards edge devices. This class explores the idea of how machine learning algorithms can be used on microcontrollers along with sensor data to build Physical Computing projects. We will talk about common machine learning algorithms and techniques and apply them to build hands-on interactive projects that enrich our daily lives.

WHAT WILL YOU LEARN?

• **Introduction to machine learning.**

• **Image Classification and Transfer Learning**

• **Running and training models using Tensorflow Lite.**

• **How to get started with machine learning on arduino.**

• **Ideal participants have previous experience with arduino and basic understanding of javascript or code in general.**

One-week classes
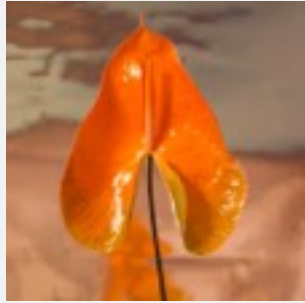
SENSUAL TECH

**3 - 7 August
In Berlin, DE**

SUMMARY

Human experiences around attachment, sex and intimacy are complex and ever-changing. What happens when we start to scrutinise human experience to explore embodiment, desire and the senses in a more objective and practical manner? Can we design new devices and experiences that stimulate our pleasure to meet or even challenge our most personal and individual needs, as well as those of the people we care about? How can technology improve the way we relate intimately to ourselves, our possessions and to others?

WHAT WILL YOU LEARN?

•A history of embodied technologies, stimulation devices and cyborg theory through the ages.

•Specific knowledge relating to the production of wearable technologies, including the use of microcontrollers, soft circuits and body-safe materials

•Introduction to coding with the Arduino platform, basic electronics and circuitry, soldering skills

ETHICS, AI, & DATA

10 - 14 August

SUMMARY

Every day we navigate our relationship to the internet, making countless compromises about the data we're leaving behind as we rationalise that access to information is of utmost importance. Is there any other way?

Join us as we explore the potential of data to disrupt larger systems. This class aims to cover a lot of ground relating data, ethics, feminism, interfaces and ideologies and the role of AI in our daily lives.

WHAT WILL YOU LEARN?

•About inherent bias and how data is collected.

•The current state of ethics and AI in relation to data.

•About the feminist data set project and alternative approaches to collecting data

•About the power of the graphic user interface design to enhance the production of data

critiquing w/o being too critical

proposing & exploring w/o predicting

exploring futures as a way to discuss options

MADE IN CHINA II

/ Two-weeks, full-time in Shenzhen, China

/ Up to 10 participants accepted

/ Program held in English

COURSE DESCRIPTION

Made In China II is an intensive two-week program led by artists and creative technologists from London-based VVFA and Automato Farm based in Shanghai, China. The aim of this program is to enable a hands-on creative exploration of digital fabrication and Internet-of-Things connected devices, while gaining deeper insight into China's cultural surroundings from an inside perspective.

What are the implications of a society that can manufacture any new product on demand as their access to design components is instantaneous? What can we learn from such an approach to society and to life? Made In China II will emphasize the learning and use of digital fabrication techniques to examine how technologically mediated interactions can produce emotional and empathetic responses. Once repurposed, they enable us to experience distant futures.

NOTE: This program ran in April 2019 and we had such a brilliant experience we decided to go back again. If you are currently a student or professional, please ask about the possibilities of receiving funding for this program through your university or workplace. Sometimes it works!

WHAT YOU WILL LEARN?

• **Prototyping as iterative design and development process**

• **Design, development and fabrication of physical mechanisms**

• **CAD design for fabrication: use of Rhino to develop 3D models suitable for manufacture with 3D printers, CNC machines, and laser-cutters**

•**Digital fabrication tooling, e.g. 3D printing moulds, jigs, etc.**

• **Basic programming using Arduino - motors, steppers, servos, sensors, LED strips, etc.**

• **Experience with different materials, e.g. plastics, metals, rubbers, timber, etc. as necessary**

• **Presentation and communication of ideas and projects to an international audience and the generous SEEED community.**

WHO IS THIS COURSE FOR?

This workshop is geared toward anyone involved in creative projects (designers, makers, artists, musicians, performers etc.) that wish to begin incorporating fabricated objects, electronics, sensors, and connected devices into their work or practice. The course approaches these topics from a hands-on introductory level wherein instruction is very personalised to the needs of our participants.

FOR MORE INFO AND TO APPLY, CLICK HERE.

Four-week programs


TRANSMEDIA STORYTELLING

**1 - 26 June
In Berlin, DE**

SUMMARY

Storytelling is one of the most powerful ways for putting ideas out into the world. What is the power of telling stories in the modern age, cross-platform using newer tools and augmented- and virtual realities? In this program we'll explore the art of the narrative and ways of approaching performance and production while gaining hands-on experience with all aspects of creation from initial concept to final showpiece and documentation.

WHAT WILL YOU LEARN?

•How to conceptualise and design transmedia storytelling experiences.

•How to construct narrative and work with actors

•Fundamentals of Unity software for creating AR and VR experiences

•Project development methodologies

•Use of auxillary tools such as Leapmotion, kinect, or other sensors as needed.
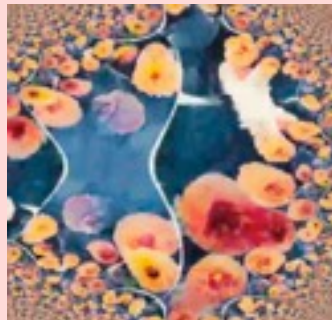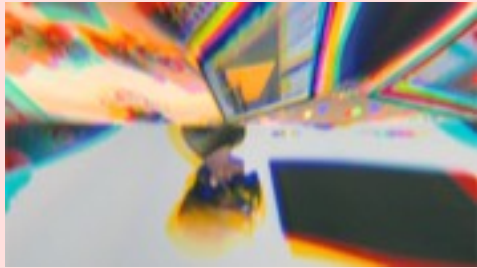

NATURE, GENERATIVE ART & ML

**29 June - 24 July
In Berlin, DE**

SUMMARY

In striving towards a holistic approach to technology wherein technology and nature are part of a singular whole, with nature serving as active inspiration, healing presence, and powerful subject, this program offers a way of re-framing the physical and digital world through the lens of nature and ecology. Together we will learn and explore nature and science, and generative and machine learning algorithms as we experiment and apply them to various forms of art-creation.

WHAT WILL YOU LEARN?

•An approach to nature through the lens of new technologies

•Theory, tools and frameworks for producing machine learning and generative artworks

•Using variety of instruments (microscopes, sensory input, collected images, etc.) to produce datasets and how to format and process them for use in machine learning

•Fabrication, processing works as printable/plotable, etc.

SUMMARY

Art has the power to change the world but how can we spread our messages far and wide and have greater reach and impact? This program is about creating artworks not for the gallery but for residing in public space. What considerations must we take into account when working towards outdoor public presentation and interactivity? This program aims to output collaborative public artworks to be displayed in various locations throughout Berlin.

WHAT WILL YOU LEARN?

•How to concretize your ideas from conception to hands-on implementation.

•Electronics, from beginner to intermediate level, from prototype to considerations for sturdier applications.

•Basics of coding and how to use sensors and other devices for creating interactive artworks.

•How to work with paint and other materials (acryllic, plaster, concrete, wood, etc.) for creating physical props and objects.

INTERACTIVE BERLIN

27 July - 21 August In Berlin, DE

ABOUT OPEN EARLY APPLICATIONS & HARDSHIP SCHOLARSHIPS

Early program applications and hardship scholarship applications are currently being accepted. Deadline to apply for either of these is 26. January, 2020.

Early program applicants will be eligible to receive a 20% reduced fee if they are accepted. Fees will go up on 27. January and thereafter more detailed information about each program will be made available. if you're someone who prefers smaller fees to needing to know every last detail, this early application is for you!

Please note: hardship scholarships will be judged based on a list of criteria. You will find more information on the application itself. If you are eligible to receive a scholarship, please do not submit an early program application.

TO SUBMIT AN EARLY PROGRAM APPLICATION, CLICK HERE.

TO SUBMIT A 2020 HARDSHIP SCHOLARSHIP APPLICATION, CLICK HERE.

If you or an organisation you work for is interested to sponsor a scholarship for an under-represented person in tech, write to us!

Additionally, in 2020 we're offering education design consulting as well as custom workshops for organisations and companies.

Have questions? Get in touch at info@schoolofma.org

Sign-up here to our newsletter for the latest updates!