

Educational Efforts on AI and HCI (Last updated April 8, 2021)

Collated by Ben Shneiderman (send updates ben@cs.umd.edu)

Courses

Human-Centred AI, University of British Columbia,

Cristina Conati (Fall 2019), conati@cs.ubc.ca

<https://www.cs.ubc.ca/~conati/522/532b-2019/532-description.html>

<https://www.cs.ubc.ca/~conati/522/532b-2019/readings-Fall2019.html> (Reading list)

Human-AI Interaction, Carnegie Mellon University,

Chinmay Kulkarni (Fall 2019), chinmayk@cs.cmu.edu

but was first taught by Jeff Bigham (Fall 2018) jbigham@cs.cmu.edu

<http://www.humanaiclass.org/>

Designing Artificial Intelligence: for the Long-term, Carnegie Mellon University,

Chinmay Kulkarni (Fall 2020), chinmayk@cs.cmu.edu

Design of AI Products and Services, Carnegie Mellon University, HCI Institute

John Zimmerman (Spring 2019), johnz@andrew.cmu.edu

<https://hcii.cmu.edu/courses/design-ai-products-and-services>

HCI for Machine Learning, University of Illinois at Urbana-Champaign,

Ranjitha Kumar, ranjitha@illinois.edu

Fall 2019: <https://courses.engr.illinois.edu/cs598rk/fa2019/>

Fall 2018: <https://courses.engr.illinois.edu/cs598rk/fa2018/>

Human-AI Interaction: CS6724: Advanced Topics in Human-Computer Interaction, Virginia Tech

Kurt Luther (Spring 2020) kluther@vt.edu

<https://wordpress.cs.vt.edu/cs6724s20/readings/>

Human-AI Interaction: CS279R Research Topics in HCI, Harvard University

Elena L. Glassman (Fall 2020) glassman@seas.harvard.edu;

https://docs.google.com/document/d/1tR7G1ghLYpcqFj3v_E3CEBTAINIJuMTQumR1CCfykoo/edit

Human-AI Interaction, Williams College

Iris Howley (Fall 2020) and (Spring 2021) ikh1@williams.edu

<https://sites.google.com/williams.edu/haiiteaching/home>

Visual Analytics & Machine Learning, Vanderbilt University

Matthew Berger (Spring 2019) matthew.berger@vanderbilt.edu

<https://matthewberger.github.io/teaching/vaml/spring2019/syllabus/>

Visualization: Connections with Machine Learning, NYU Tandon School

Claudio Silva (Spring 2020) csilva@nyu.edu

<https://lukexuke.github.io/course/vaml/index.html>

Social Robotics, Vrije Universiteit Amsterdam and Hong Kong Polytechnic

Johan F. Hoorn (since 2017) johan.f.hoorn@polyu.edu.hk

(no website, syllabus on request)

Stanford's Human-centered AI Institute lists several courses, but I couldn't find information

On them <https://hai.stanford.edu/education> (I've written to Julie Stanford)

Stanford d.school course, Michelle Carney (Winter 2020), offers a project-oriented course

[Stanford d.school a course on Designing Machine Learning](#)

<https://dschool.stanford.edu/classes/designing-machine-learning>

Course website and resources:: bit.ly/designingML2020

Swansea University (Wales, UK) has a new Masters of Science

(organized by Matt Jones, Alan Dix, and Harold Thimbleby)

Human-Centred Big Data and Artificial Intelligence, MSc

<https://www.swansea.ac.uk/postgraduate/taught/science/computer-science/msc-human-centred-big-data-and-ai/>

Bristol University, UK, Centre for Doctoral Training in Interactive AI (1-year masters course

followed by a 3-year PhD), contact Kacper Sokol, ks1591@my.bristol.ac.uk:

<https://www.bristol.ac.uk/study/postgraduate/2021/doctoral/phd-interactive-artificial-intelligence/>

Cambridge University, UK Interaction with Machine Learning

Alan Blackwell (Spring 2021) afb21@cam.ac.uk

<https://www.cl.cam.ac.uk/teaching/2021/P230/>

EU's Humane AI effort looks promising (Yvonne Rogers steered me to this)

<https://www.humane-ai.eu/>

I tried some contacts and web searching, but I could not find courses (however, there may be courses offered) at:

U-Washington, GATech, U-Maryland, MIT, U-Michigan, U-Minnesota, CMU, UC-Berkeley

These courses come from the HCI side, but I see reluctance from many on the AI side to get into design, research, and teaching about HCI & UX.

ACM CHI Conferences

CHI 2018 and CHI 2019 hosted a workshop on Computational Interaction,
the focus was on use of Bayesian methods to improve user interface design

<http://pokristensson.com/chicourse19/>

Nikola Banovic, University of Michigan, USA Per Ola Kristensson, University of Cambridge, UK
Antti Oulasvirta, Aalto University, Finland John Williamson, University of Glasgow, UK

Relevant paper from ACM CHI 2019 Extended Abstracts:

Where is the Human?: Bridging the Gap Between AI and HCI

Kori Inkpen, Stevie Chancellor, Munmun De Choudhury, Michael Veale, Eric P. S. Baumer

<https://dl.acm.org/doi/abs/10.1145/3290607.3299002>

Their workshop page has many papers: <https://veale.github.io/ai-hci-workshop/>

CHI 2021 will host a virtual workshop on Co-Designing Resources for Ethics Education in HCI
on May 9, 2021: <https://sites.google.com/view/codesignethics>

Corporate efforts

On the other hand, the companies seem to be leading the way:

Apple has very useful guidelines with many examples

Apple Human Interface Guidelines for Machine Learning.

<https://developer.apple.com/design/human-interface-guidelines/machine-learning/overview/introduction/>

Google's PAIR is thoughtful and deep:

<https://research.google/teams/brain/pair/>

I've been in touch with Fernanda Viegas and Martin Wattenberg, plus their team.

IBM presents aspects of AI ethics, trust, and HCI in AI:

<https://www.ibm.com/artificial-intelligence/ethics>

<https://www.research.ibm.com/artificial-intelligence/trusted-ai/>

<https://www.ibm.com/blogs/research/2019/04/hci-ai/>

Microsoft is active with: 18 Guidelines for AI-Human Interaction

<https://www.microsoft.com/en-us/research/project/guidelines-for-human-ai-interaction/>

Microsoft's Office of Responsible AI guides corporate efforts

<https://www.microsoft.com/en-us/ai/responsible-ai?activetab=pivot1%3aprimar6>

Other resources:

Richard H. R. Harper writes in IJHCI

The Role of HCI in the Age of AI

<https://www.tandfonline.com/doi/abs/10.1080/10447318.2019.1631527>

Excellent resources in the Medium article by Michelle Carney, September 9, 2019

Machine Learning and User Experience: A Few Resources

<https://medium.com/ml-ux/machine-learning-and-user-experience-a-few-resources-e7872f1d34ee>

Good article by Erica Virtue of Facebook on AI-HCI design in real situations, September 6, 2017

<https://medium.com/facebook-design-business-tools/designing-with-ai-3f7652619f4>

Article by Josh Lovejoy and Jess Holbrook, July 9, 2017,

Human-Centered Machine Learning

<https://medium.com/google-design/human-centered-machine-learning-a770d10562cd>

Articles on Ethics Education in CS and AI/ML:

Fiesler, C., Garrett, N., & Beard, N. (2020, February). What Do We Teach When We Teach Tech Ethics? A Syllabi Analysis. *Proc. 51st ACM Technical Symposium on Computer Science Education*, 289-295. <https://dl.acm.org/doi/abs/10.1145/3328778.3366825>

Garrett, N., Beard, N., & Fiesler, C. (2020, February). More Than "If Time Allows" The Role of Ethics in AI Education. *Proc. AAAI/ACM Conference on AI, Ethics, and Society*, 272-278. <https://dl.acm.org/doi/abs/10.1145/3375627.3375868>

Saltz, J., Skirpan, M., Fiesler, C., Gorelick, M., Yeh, T., Heckman, R., Dewar, N., & Beard, N. (2019). Integrating ethics within machine learning courses. *ACM Transactions on Computing Education (TOCE)*, 19(4), 1-26. <https://dl.acm.org/doi/abs/10.1145/3341164>