Towards HUMAN-CENTERED AI through Interactive Data Visualization

Minsuk Kahng
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https://minsuk.com
AI is difficult to understand for many people. How can we make AI more interpretable and accessible?

We build interactive data visualization tools for people to more easily understand, build, and use AI systems.

GAN Lab Collaboration with Google

Interactive Visual Learning of Deep Learning Models in Browser

Try out! 110K visitors from 170 countries

bit.ly/gan-lab 1.9K Likes 800+ Retweets
You should consider working with us if you answer "yes" to any of these:

- You like to design user interfaces;
- You are interested in thinking about human-side of AI;
- You would like to create JavaScript programs; or
- You want to help people who want to learn AI.

Minsuk Kahng
School of EECS  https://minsuk.com
Teaching

- Intro to Artificial Intelligence (CS 331)
- Machine Learning for Species Distribution Modeling (FW 599)
- Use and Abuse of Data: Critical Thinking in Science and Everyday Life (BDS 211)

Research

My research is at the intersection of machine learning and ecology.

I am part of the computational sustainability community, trying to find ways that computer science can contribute to promoting the health of the Earth’s ecosystems and bringing interesting new problems back to computer science.

Thesis Topic Ideas/Opportunities

- Methods for inferring species interaction networks from incomplete data
- Methods to predict species distributions from remotely sensed imagery
Link prediction ideas from recommender systems
Link prediction ideas from recommender systems
Citizen science: biodiversity surveys at unprecedented scales

- Checklist included indigo bunting
- Checklist did NOT include indigo bunting

*Passerina cyanea*
School of Psychological Science

Typical Honors Pathway in Psychology

1st Year
- 201/202H: Intro Psych
- 399 Psychology Research Skills
  
  Learn about research labs & experiences in SPS

2nd Year
- 298H, 301H: 3xx Survey Courses inc. 340H Stats/Methods
- 399 Psychology Research Skills
  
  Join a lab, learn basic research skills

3rd Year
- 401: Research, Survey and 400-level seminars
- 399 Psychology Research Skills

  Define thesis advisor & thesis, IRB approval, data collection

4th Year
- 401, 460H: WIC
- 399 Psychology Research Skills

  Analyze data, write thesis, present at CUE
Research Opportunities in Psychology

Courses

Psychology of Trauma
Clinical Research Methods

Dr. Kathy Becker-Blease

Human Development
Trauma
Science of Teaching and Learning

Kathryn.Blease@oregonstate.edu
https://liberalarts.oregonstate.edu/users/kathryn-becker-blease

How to Learn More/Get Involved

PSY 499 Psychology of Trauma – tentatively scheduled winter

Email to learn more about remote trauma-related journal club/lab meetings

Observe remote a lab meeting tomorrow Fri., May 22 at 11 am
Research Opportunities in Psychology

Courses

Abnormal Psychology
Psychotherapy
Clinical Research Methods (WIC)

Dr. David Kerr

Depression & suicide risk
Substance use
Adolescents & young adults

David.Kerr@oregonstate.edu
https://liberalarts.oregonstate.edu/users/david-kerr

How to Learn More/Get Involved

Read journal abstracts by “DCR Kerr” on Google Scholar

Email to learn more about remote lab meetings
NEED HELP FINDING LAB OR MENTOR?

EMAIL ME AT KATHRYN.BLEASE@OREGONSTATE.EDU
Matthew Shuman

Title: Senior Instructor

Contact: shumanm@oregonstate.edu

Courses:

- ECE 112 Introduction to ECE
- ECE 271/272 Digital Logic Design
- ECE 341/342 Junior Design
Project Based MS Degree

A new option for a Masters in Computer Science or Masters in Electrical Engineering is now available with a focus on design, systems, and projects. Graduates in this program focus efforts on creating real systems, developing leadership in team structures, learning the ins and outs of complex systems, and gaining industry exposure.

Two-Year Program: Students in this program commonly spend their first year gaining technical skills and preparing to lead their project. In the second year, students take the lead in project development using their own technical knowledge. This includes working collaboratively with senior and junior design teams. Projects can be student-developed or can be continuations of existing larger scale projects in automotive, robotics, aeronautics, instrumentation, or other fields.
Primary Activities

Faculty Advisor: OSU Robotics Club

Mars Rover Project

Communities of Practice: Embedded Systems

Internet of Things
Prof. Lzhong Chen

System Technology and Architecture Research (STAR) Lab
School of Electrical Engineering and Computer Science
Oregon State University
Office: KEC 3113, chenliz@oregonstate.edu
http://web.engr.oregonstate.edu/~chenliz/index.html
• **Research at STAR Lab**
  – AI/ML for optimizing computer architecture
  – Accelerators for AI and machine learning
  – Energy efficiency of HPCs and data centers
  – Many-core architecture for post-Moore era
  – GPU architectures
  – Mobile and wearable devices (VR/AR, etc.)

• **Open positions**
  – Both CS and ECE students are welcome
  – Encourage you to continue grad study at OSU
    • Continuity usually shortens length of study (esp. PhD)
    • Strong tie between STAR Lab and industry (project/intern/job)