In The News

Job Screening Service Halts Facial Analysis of Applicants

But it's still using intonation and behavior to assist with hiring decisions.

HireVue, a leading provider of software for vetting job candidates based on an algorithmic assessment, said Tuesday it is killing off a controversial feature of its software: analyzing a person’s facial expressions in a video to discern certain characteristics.

Job seekers screened by HireVue sit in front of a webcam and answer questions. Their behavior, intonation, and speech is fed to an algorithm that assigns certain traits and qualities.
CS88 Team

Tutors

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Michael Voeckel

Course Structure

• 2 lectures, 1 lab each week
• Lecture introduces concepts (quickly!) answers why questions.
• Lab provides concrete detail hands-on
• Homework (12) cements your understanding
• Projects (2) put your understanding to work in building complete applications
  - Maps
  - Ants vs Some Bees
• Readings: [http://composingprograms.com](http://composingprograms.com)
  - Same as cs61a

Class Format

• Mon and Weds Lectures:
  - Some lectures will be pre-recorded, class time will be largely demo/Q&A
  - Each lecture has a series of short self-check questions
• Labs are paced throughout the week. See the Ed post to pick a time.
• Labs are HANDS ON – get help as you’re trying the lab.

Class Format: Assignments

• Projects: 100 points between 2 projects
  - Start early! “Checkpoint” assignments
• Slip Days: 8 total
  - Use up to 3 on any assignment
  - The apply (in the order that’s most beneficial)
  - i.e. use them on projects if you need!
  - Can be used for homework, labs, projects, but not project checkpoints.
• Slip Days take care of nearly all, but not all special circumstances!
  - What if you go over slip days?
    - 25% deduction for each day over. Mathematically you can still earn 25% if you turn in something 3 days late.

Class Format: Assignments

• Lecture Quizzes, 1 point, max 20.
  - 1 per lecture, due in 1 week. (Half credit after)
• Lab Work: 4 points, 12 labs, 1 drop
  - Start them during lab! You can probably finish some labs in 2 hours. Will be Python + some interactive questions.
  - Out Tues, due next Tues Night.
• Homework: 8 points, 12 HW, 1 drop
  - Start early!
  - Out Weds, Due Next Friday Night

Class Format: Exams

• 1 midterm and 1 final exam
• Midterm 2 hours, “Mid march”, sometime before Spring Break; 2 hours.
• Exam will be during the slot assigned by campus.
  - We will be proctoring via Zoom. Exact policies coming soon, but, essentially, you’ll record yourself at home.
• Open book, no collaboration.
How does CS88 relate to CS61A?

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Opportunities for students

cs61a

c8 CS88

c8 CS61

c8 CS88

c8 CS61a

c8 CS61b

The Data Science Major

Individualized Upper Division
30 units

Foundational Lower Division

Computational & Inferential Depth
Modeling, Learning & Decision Making
Domain Emphasis
Human Contexts & Ethics

Data 100: Principles & Techniques of Data Science

Mathematics
Computing
Domain Emphasis
Mathematics

Data 2: Foundations of Data Science

College Breadth & Electives

Data Science

A National Challenge

By 2021, 69% of employers expect candidates with DSA skills to get preference for jobs in their organizations.

Only 23% of college and university students say their graduates will have those skills.

Greatest Artifact of Human Civilization...
A Connected World of Data

- The world’s knowledge at our fingertips
- Digitalization of life, industry and society
- Intimately connected to billions of us, globally
- Explosion of observational instruments
  - Genomics, Microscopy, Astronomical, …
- Vast computational power to do analytics
- Synthetic design exploration thru simulation
- Machine reading of everything
- Statistical machine learning algorithms to “discover” structure

What if I could … ?

- See the world’s digital footprints?
- Read everything that’s ever been written?
- Take it all in and dive down anywhere as far as the science can take me?
- Learn the physical/chemical/biological/sociological/neurological… models from the data?
- Explore billions of designs and pick the one I want?
- … ?

Data 8 – Foundations of Data Science

- Computational Thinking + Inferential Thinking in the context of working with real world data
- Introduce you to several computational concepts in a simple data-centered setting
  - Authoring computational documents
    - Tables
  - Within Python and “SciPy”
CS88 – Computational Structures in Data Science

- Deeper understanding of the computing concepts introduced in c8
  - Hands-on experience => Foundational Concept
  - How would you create what you use in c8?
- Extend your understanding of the structure of computation
  - What is involved in interpreting the code you write?
- Deeper CS Concepts: Recursion, Objects, Classes, Higher-order Functions, Declarative programming, ...
- Managing complexity in creating larger software systems through composition
- Create complete (and fun) applications
- In a data-centric approach

Course Culture

- Learning
- Community
- Respect
- Collaboration
- Peer Instruction

Where will we work?

- Your laptop
  - Using an editor and a terminal
- cs88.org
- datahub.berkeley.edu
  - Not as often, but an option
- us.edstem.org
  - Check out the “Workspaces”,
  - Can write and run (!!) python in you own posts!

Poll: Check In

- How has lab gone so far?
  - A. Labs have gone fantastic!
  - B. Labs have gone alright...
  - C. Labs have gone very well...
  - D. I haven’t been to lab yet.

Poll: Check In

- Are you enrolled in Data 8?
  - A. I took if Spring 2020 or earlier
  - B. I took it Fall 2020 ("last semester")
  - C. I’m taking it right now
  - D. I am trying to enroll in Data 8
  - E. I am not taking Data 8
Poll: Check In

- Where are you right now?
- A. I made it to Berkeley!
- B. I’m somewhere in California
- C. I’m somewhere else in the US
- D. I’m somewhere internationally for the semester
- E. I’ve made it to Space where there is no COVID.

Pro-student Grading Policies

- EPA
  - Rewards good behavior
  - Effort
    - e.g., Office hours, doing every single lab, hw, reading Ed posts
  - Participation
    - e.g., Raising hand in lec or discussion, asking questions
  - Altruism
    - e.g., helping other students in lab, answering questions on Ed

Your Tasks

- Lecture 1 Quiz On Gradescope
- Signup Genius form for lab times

Welcome, and Good luck!