

# Richard Zhao

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📄 <https://richardzhao2.github.io/>

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## Education

Aug 2016 | **BS in Statistics & Machine Learning, Minor in Computer Science,**  
May 2020 *Carnegie Mellon University, GPA: 3.33/4.0, Pittsburgh, PA.*

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## Work Experience

- May 2018 – **Technical Intern**, *ASTM International*, Conshohocken, PA.
- Aug 2018
- Designed, developed, and improved UI/UX with Bootstrap and Material design for in-house statistical reporting and proficiency testing software.
  - Developed software to parse databases, classify thousands of users, and automate database maintenance and integrity verification process with cosine similarity and hierarchical clustering algorithms.
  - Extracted, analyzed, and visualized data for hundreds of program-participant test samples to generate statistics for scientific reports.
- May 2017 – **Instructor/Curriculum Developer**, *Digital Media Academy*, Cambridge, MA.
- Feb 2018
- Lead instructor for iOS development, Game Programming, and Advanced Java
  - Developed and revamped course curriculum for advanced Java course

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## Skills

Languages Python, Java, C, C#, Javascript, HTML/CSS, SQL, R, MATLAB  
Technical Pygame, NumPy, JUnit, Swing, React.js, Bootstrap, LibGDX, JIRA, Git, Unix

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## Projects

**Engee**, *Bootstrap, Flask, Node.js, Pandas, Sci-Kit Learn.*

Web application that acts as a sandbox for the machine learning pipeline, enabling students to learn about machine learning and professionals to use different models to analyze data sets without technical knowledge.

<https://github.com/richardzhao2/engee>

**Schedulize**, *Python, Pandas, Sci-Kit Learn, PyGame.*

Application that uses a recommender system, latent semantics analysis, and decision trees to create optimal class schedules for students based on past course performance and preferences. Winner of Best Design at HackCMU.

<https://github.com/richardzhao2/Schedulize>

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## Relevant Coursework

*Data Structures and Algorithms / Mathematical Software / Fundamentals of Computer Science / Discrete Math / Statistical Methods and Data Science / Software Construction / Probability Theory / Statistical Visualization / Human Information Processing and Artificial Intelligence / Coding for Good / Data Management*

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## Activities

**Student Developer**, *Coding for Good.*

Work with local hospitals and UPMC to conceptualize and develop applications that can detect abnormal body behavior through body-worn sensors, recognize atypical changes in human position and behavior in crowds with computer vision, improve location transmissions to EMS, and analyze 911 operator calls with natural language processing.