HAYDEN HOUSEN

Machine Learning • Computer Vision • Web Development

High school senior with extensive experience in computer science. Possesses impeccable organizational skills and excellent knowledge of programming languages. Has conducted scientific research in the field of machine learning.

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github.com/HHousen

EXPERIENCE

lecture2notes
Sept 2019 - Present

Summarizing Lecture Videos by Classifying Slides and Analyzing Text
Conducted scientific research & created a state-of-the-art system to summarize classroom lectures using machine learning, computer vision, and NLP. Code available at github.com/HHousen.

Will I Have A Snow Day.com
Dec 2019 - Sept 2020

Predicting Snow Days with Machine Learning
Created an AI-powered automatic snow day predictor website that improves itself overtime using user feedback. Learned about machine learning models and data processing techniques.

TransformerSum
Mar 2020 - Aug 2020

Open-Source Neural Summarization Library
Furthered research in neural-network text summarization models, specifically in less researched areas such as long document summarization. 4.45x smaller than state-of-the-art but 94% as accurate. High code quality and thoroughly documented at github.com/HHousen.

PicoCTF
Sept 2019 - Jun 2020

Cybersecurity Challenges
Placed 609 out of 15,817 during the competition. Continued to complete all 121 challenges and reach rank 39 out of nearly 100,000 participants. Learned ethical hacking skills including cryptography, forensics, reverse engineering, and binary exploitation.

Fast.ai
Sept 2018 - Jul 2019

Deep Learning Fundamentals
Developed an understanding for deep learning concepts by building state-of-the-art models & writing machine learning functions from scratch. Read deep learning books & took online courses at Stanford.

FreeCodeCamp & CTY
Jun 2018 - May 2019

Web Development & Java
Completed about 400 hours of front-end coursework. Built 10 front-end projects. Completed 347 coding challenges. Completed Java courses through Johns Hopkins Center for Talented Youth.

EDUCATION

ADVANCED REGENTS DIPLOMA W/HONORS
Sept 2017 - Jun 2021

PAWLING CENTRAL HIGH SCHOOL - GPA: 4.0
Always enrolled in highest level courses. Conducted research into machine learning & computer vision through Science Research program. Took every available computer science course.

ACTIVITIES

VARSITY CROSS COUNTRY
2018-2021

Practiced daily and accomplished personal running goals, motivated teammates to reach their potential, enhanced team spirit through communication and attitude.

MATH TEAM
2017-2021

Studied advanced mathematics and competed against other schools.

BIBLE CLUB
2017-2019

Facilitated charitable service activities, conversations, discussions, activities, and debates.

PROJECTS

See machine learning experiments, full-stack websites, and front-end designs at haydenhousen.com
Hayden's self-motivated work ethic led him to take 12 AP classes and every honors class available. He developed his passion for teaching machines to learn as a member of the Science Research program at PHS/UAlbany. By developing and contributing to open source projects, Hayden furthers the state-of-the-art in machine learning research. When he is not programming he enjoys running cross country in the fall and skiing in the winter.

SKILLS

Understands full-stack web development and enjoys creating state-of-the-art machine learning models.

PYTHON
PYTORCH
LINUX
HTML, CSS, JS
GIT
PHOTOSHOP
OPEN SOURCE

HONORS

Regeneron STS Top 300 Scholar - 2021
1st Computational Sciences at Eastern JSHS - 2021
2nd Computational/Physical Sciences at Upstate New York JSHS - 2021
Somers Science Fair 3rd Place in Computer Science/Mathematics - 2019
Principal's Honor Role x12
CB National Rural & Small Town Scholar - 2020
Rensselaer Medal - 2020
Award Winning Graphic Designs (T-Shirts, brochures, bookmarks)
AP Scholar with Distinction Award - 2020
Pawling Varsity P (x2) - 2018/2019
RIT Computing Medal - 2020
Math National Honor Society Treasurer
Science & Spanish National Honor Society Member