

HENRY GORELICK

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www.github.com/hgorelick

Education

- AUG 2018 – MAY 2020 **MS in Computer Science**, *Fordham University*, New York, NY
- GPA: 3.63/4.0
 - Graduate Research Assistantship Scholarship Recipient
 - Co-founder of the Computer & Information Science Graduate Student Association

Experience

- OCT 2020 – *present* **Full-Stack Software Engineer**, *GOAL Properties*, Part-time, Remote
- Developing web applications with Svelte and AWS.
- AUG 2018 – AUG 2020 **Graduate Research Assistant**, *Fordham University*, New York, NY
- **Semantic Word Association Analysis**
Lead Researcher
Used Python and state-of-the-art data mining and machine learning techniques to develop language models that predict and interpret a novel's success based on its contents.
 - Created the largest dataset (~18,000 books) for evaluating book success.
 - Developed the most accurate models to date for predicting book success, with our best model achieving an average accuracy of 94.0%.
 - Submitted paper to EACL 2021 (pending decision).
 - **Predicting and Enhancing Hearthstone Play Strategy**
Master's Thesis
Developed with C# and Python. Demonstrated that combinatorial fusion analysis can effectively predict winners and enhance play strategy of Blizzard Entertainment's collectible card game Hearthstone.
 - Combined and evaluated the performance of each combinatorial combination of five machine learning models trained on 500 Hearthstone game simulations.
 - Developed a preliminary Hearthstone playing AI agent using Monte Carlo Tree Search.
 - **Elastic Flow Configuration for Containerized Deep Learning Applications**
Team Researcher
Developed a system with Python that monitors loss functions of machine learning and deep learning jobs at runtime to elastically make decisions on resource configuration.
 - Utilized Docker and Kubernetes for development and testing.
 - Our system reduced the completion time by up to 42.06% for a single job, without sacrificing the overall makespan, in the presence of various deep learning job workloads.
- APR 2018 – SEP 2019 **Lead Robotics Researcher**, *Boyce Technologies*, Long Island City, NY
- Used Python, C#, Rhino 3D, ABB RobotStudio, and Autodesk PowerMill to develop, manage, and maintain all aspects of our four ABB robot systems including system architecture and procedure programming.
 - Researched and tested new software to enhance and optimize automated manufacturing processes such as 3D printing, subtractive machining, and robotic welding.

JUL 2017 – APR 2018

R&D and Technical Writing Intern, Boyce Technologies, Long Island City, NY

- Assisted in the day-to-day operations of a cutting-edge manufacturing firm's R&D department.
- Managed and tracked all R&D parts/materials purchases.
- Key contributor in writing and editing R&D's product design documentation.

Additional Projects

DEC 2019 **Autism Classification Project**, https://github.com/hgorelick/CISC6930_Project

- Built with Python.
- Analyzes results of Autism indicator surveys to build an ensemble classifier.
- Final model combines Random Forest, K-Neighbors, and a Linear SVM to predict if the results of a completed survey indicates Autism.

APR 2019 **Wumpus World AI Agent**, <https://github.com/hgorelick/Wumpus-World>

- Built in Python.
- A knowledge base implementation of an AI agent to play the Wumpus World game.

DEC 2018 **Machine Learning for the NFL Draft**, <https://github.com/hgorelick/NFLDraftAnalysis>

- My first real experience with machine learning in Python.
- I attempted to predict an NFL player's success based on his collegiate performance.
- I scraped Pro Football Reference and College Football Reference to build my own SQL database of ~2,500 pro/college football players drafted into the NFL from 2004-2015.
- Then, I used a Decision Tree classifier to predict a college player's draft position based on his collegiate stats.

FEB 2017 **Lyricist AI**, <https://github.com/hgorelick/Lyricist-AI>

- My first Python project.
- A procedural song lyric generator that uses a web-scraped database to produce rhyming, original lyrics written in the style of Coldplay.

Skills

Programming Languages	– Python (4+ years)	– XML (3+ years)	– JavaScript (1 year)
	– C++ (4+ years)	– C# (2+ years)	– ReactJS (1 year)
	– HTML (3+ years)	– Java (2+ years)	– Svelte (1 year)
	– CSS (3+ years)	– SQL (2+ years)	
Software	– Microsoft Office (10+ years)	– Pandas (3+ years)	– VS Code (2+ years)
	– Adobe Photoshop (4+ years)	– NumPy (3+ years)	– Linux (2+ years)
	– Visual Studio (4+ years)	– NLTK (2+ years)	– Rhino 3D (2+ years)
	– Pycharm (4+ years)	– Sci-kit Learn (2+ years)	– Unity (1+ years)
	– Windows (4+ years)	– Matplotlib (2+ years)	
	– Git/GitHub (4+ years)	– IPython/Jupyter (2+ years)	
Knowledge	– Object-Oriented Programming	– Data Mining	– Version Control
	– Data Structures	– Machine Learning	– Technical Writing
	– Artificial Intelligence	– Natural Language Processing	

Interests

- Sports, especially football. I'm a huge Carolina Panthers fan.
- Movies/TV, check out my IMDb ratings!
- Music: listening, playing guitar, singing. Follow me on Spotify.
- Food and cooking, there are few things I don't like, and I enjoy trying new foods.