# HENRY GORELICK

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(704) 685-2122    www.github.com/hgorelick

## Education

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| 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)
- C++ (4+ years)
- HTML (3+ years)
- CSS (3+ years)
- XML (3+ years)
- C# (2+ years)
- Java (2+ years)
- SQL (2+ years)
- JavaScript (1 year)
- ReactJS (1 year)
- Svelte (1 year)

**Software**
- Microsoft Office (10+ years)
- Adobe Photoshop (4+ years)
- Visual Studio (4+ years)
- Pycharm (4+ years)
- Windows (4+ years)
- Git/GitHub (4+ years)
- Pandas (3+ years)
- NumPy (3+ years)
- NLTK (2+ years)
- Sci-kit Learn (2+ years)
- Matplotlib (2+ years)
- IPython/Jupyter (2+ years)
- VS Code (2+ years)
- Linux (2+ years)
- Rhino 3D (2+ years)
- Unity (1+ years)

**Knowledge**
- Object-Oriented Programming
- Data Structures
- Artificial Intelligence
- Data Mining
- Machine Learning
- Natural Language Processing
- Version Control
- Technical Writing

## 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.