

Andrew Lyubovsky

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EDUCATION

Carnegie Mellon University - School of Computer Science Pittsburgh, PA
Masters in **Intelligent Information Systems** Dec 2022
Coursework: Adv. Natural Language Processing, Multimodal Machine Learning, Machine Learning for Text Mining

College of William and Mary Williamsburg, VA
Bachelors of Science in **Computer Science** and **Neuroscience** (Double Major) | GPA: 3.83/4.00 May 2021
Coursework: Adv. Lin Algebra, Mathematical Prob & Stats, Comp. Neuroscience, Philosophy of Tech.

Coursera Coursework: Machine Learning, Deep Learning Specialization, NLP Specialization

RESEARCH & INTERNSHIPS

William & Mary Computer Science Williamsburg, VA
Research Experience for Undergraduates (REU) June 2020 - May 2021

- Visualized Omegawave, GPS, Survey, and Training Load data with **Matplotlib** to detect injury predictors in Football.
- Modeled player injuries during games using **Logistic Regression** with state of art performance.
- “**Lyubovsky, A.**, Liu, Z., Watson, A., et. al. “A Pain Free Nociceptor: Predicting Football Injuries with Machine Learning.” *Smart Health* 21 (2021) (Accepted)

William & Mary Computer Science Williamsburg, VA
Monroe Scholar Research April 2019 - May 2020

- Modeled and showed feasibility of magnet based joint angle sensor with **Matplotlib**. (Patent pending)
- Built sensor, predicting shoulder angles with up to 10 degree error using **Tensorflow**.
- “Watson, A., **Lyubovsky, A.**, Koltermann, K., & Zhou, G. (2021, May). “Magneto: Joint Angle Analysis Using an Electromagnet-Based Sensing Method.” In *Proceedings of the 20th International Conference on Information Processing in Sensor Networks (co-located with CPS-IoT Week 2021)* (pp. 1-14).”

Cougaar Software Inc. Fairfax, VA
Software Engineer Associate / Intern Jul 2017- Aug 2017

- Implemented **Sphinx 4** Voice Recognition and **Mary TTS** text-to-speech synthesis for a robot prototype.
- Organized commands that a robot received to integrate them with preexisting company software.

INDEPENDENT PROJECTS

MIIS Directed Study Sept. 2021- present

- Reading papers about **Neuro-Symbolic AI**, and writing a review paper on how it can be applied to text generation.

Cryptocurrency Predictor July 2021-present

- Scraping twitter data with **sntwitter** and compressing information using **SentenceBERT**.
- Modeling tweet sentiment and tweet frequencies to create a decision tree with a predicted 18% monthly return.

Random Text Generator Nov. 2015- April 2019

- Created a random text generator using a **LSTM** next word prediction model in **Deeplearning4j**.
- Published a website with Pivotal using **Java Servlets** that created sentences using a restricted vocabulary.

SKILLS

Languages: Python & Jupiter Notebooks (Pandas, Matplotlib, Numpy, Scipy, Keras, OpenCV, Tensorflow), Java, C, HTML/CSS

Natural Language Processing: LSTMs, Sntwitter (twitter scraper), Tokenization, Text Generation, BERT

Other: Git, Linux, Signal processing, Data interpolation, Data modeling, ML model testing, Web development