John Walsh

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Education

Northeastern University, Boston, MA
Candidate for PlusOne Master of Science in Computer Science, 2024 (expected)
Part-time, 4 classes remaining after May 2023
Candidate for Bachelor of Science in Computer Science, May 2023 (expected)
Concentration in Artificial Intelligence, Minor in Business Administration

GPA: 3.97/4.0, Dean's List, Northeastern's 2021 President's Award
Relevant Coursework: Algorithms (Graduate), Software Development, Machine Learning and Data Mining 1, Natural Language Processing, Object-Oriented Design, Networks (Graduate)

Technical Knowledge

Programming Languages:	Python | Java | Javascript | C | SQL | HTML/CSS
Machine Learning:	Pytorch | Tensorflow | Keras | fast.ai | MLflow | nltk | Tesseract
	NumPy | Scikit-learn | Detectron2 | Augly | OpenCV
Software/Libraries:	React | Node.js | Express | MongoDB | AWS | Docker | Git | Bash
	Redux | jQuery | Matplotlib | Dask | Pytest | LaTeX

Experience

MORSE Corp. January - August 2022
Python Software Engineer Co-op *Cambridge, MA*

- Designed and implemented scalable software architecture for Python data augmentation tool containing 10,000+ lines of code.
- Developed Python solutions for image and text processing, code optimization, data provenance, and rigorous automated testing, using tools including Docker, OpenCV, Dask, Pytest, and Jupyter.
- Analyzed customer data, implemented a data cleaning pipeline, performed data splitting, and developed and evaluated a computer vision machine learning model.
- Led multiple technical demos to customers to demonstrate successful completion of software and highlight product competitive advantages.

Liberty Mutual January - August 2021
Data Science Co-op - Solaria Labs *Boston, MA*

- Designed, implemented, and improved multiple Pytorch machine learning models, computer vision algorithms, and data pipelines to successfully perform automated analysis of imagery.
- Developed and deployed models in an Agile environment utilizing tools such as Python, mlflow, fast.ai, Pytorch, Tesseract, Linux, Git, JIRA, and multiple AWS machine learning services.

Woods Hole Oceanographic Institution July - December 2018
Student Intern - WARPLab *Falmouth, MA*

- Developed systems for monitoring oceanographic imagery and audio data with artificial intelligence, using Python, Pytorch, GANs, CNNs, clustering algorithms, and variational autoencoders.
- Created a highly accurate pipeline to differentiate unknown plankton species with feature extraction.

Projects

Global Content Delivery Network *December 2021*

- Built a highly scalable CDN in Python for efficiently delivering web content to global users.
- Developed HTTP and DNS servers, utilized a geolocation algorithm, implemented LRU caching, created a data compression algorithm, and implemented load testing to increase program performance.

Senti *April 2020*

- Developed a sentiment analysis dashboard for Youtube comments using a recurrent neural network, Python, Keras, Numpy, the Youtube Data API v3, and Matplotlib.