

# Patrick Williams

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## EDUCATION

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<b>Washington University in St. Louis</b>   Master's in Data Analytics & Statistics	Expected May 2022
• Bachelor's of Science in Computer Science, Minor in Finance	Expected May 2021
• GPA: 3.65/4.0	
• Studied at London School of Economics & Political Science Summer 2019	

## EXPERIENCE

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<b>Quality Data Science Intern</b>	Jun. 2020 – Aug. 2020
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Allegion | Princeton, IL

- Wrote SQL Queries to process data and automate data flow saving business leaders hours each week.
- Utilized Python and R code to make custom interactive visualizations for data within Power BI for easy analysis of data for business leaders. Problems could be analyzed and fixed in real time instead of retroactively.

<b>WashU Vision &amp; Learning Group</b>	Jan. 2020 – Present
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- Working on small team with professors on research for low-bit quantization function in hardware for cameras specialized for deep learning computer vision tasks.
- Built and trained several different convolutional neural network models in Python with Tensorflow and PyTorch for the low-bit quantization function.
- Developed visualizations utilizing Numpy and weights learned from neural network architecture to show what low-bit quantization function had learned and the information learned from images.

<b>Teacher Assistant</b>	Jan. 2019 – Dec. 2020
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Washington University in St. Louis | St. Louis, MO

- Held weekly office hours every semester to help students learn material for various courses including Computer Vision, Data Mining, Big Data Cloud Computing, and Data Structures & Algorithms.
- Worked with professors and other teacher assistants to grade student assignments and teach course material through lab sessions.

## PROJECTS & EXTRACURRICULARS

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<b>Washington University Trading Club</b>	Sep. 2019 – Present
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- Highly involved member learning algorithmic techniques for trading.
- Small team placed 3<sup>rd</sup> overall in University of Chicago Midwest Trading Competition 2020 utilizing Kalman Filtering technique to improve stock market forecasting.

<b>Advances In Computer Vision Projects</b>	Jan. 2020 – May 2020
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<https://github.com/patrickwilliams3/MyGoogleColabs>

- Implemented Pyramid Stereo Matching Network to form depth maps of images using a deep convolutional neural network architecture extracting spatial features at multiple image levels.
- Implemented Show and Tell: A Neural Image Caption Generator to make captions of images in Python using Keras.

<b>Arch Hacks</b>	March 2020 – Present
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- Member of execute team as back-end developer to create hackathon for Washington University in St. Louis.
- Took initiative within role by leading two-hour presentation for students on using Node.js with Microsoft Azure.

## SKILLS & COURSEWORK

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**Languages:** Python, Java, R, C++, SQL

**Frameworks & Tools:** Tensorflow, Numpy, Pandas, Scikit-Learn, Keras, Jupyter Notebook

**Courses:** Data Structures, Data Mining, Computer Vision, Advances in Computer Vision, Machine Learning, Artificial Intelligence