# Bao Duy Huynh

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## EDUCATION

**Worcester Polytechnic Institute (WPI),** Worcester, MA
Bachelor of Science in Computer Science, GPA: 3.87/4.00, Dean's List **May 2023**
Master of Science in Computer Science, GPA: 3.76/4.00 **May 2023**

## SKILLS

**Programming:** Python, Java, SQL [Intermediate], C, C++, JavaScript, HTML, React, CSS
**Software:** Jupyter, VS Code, Git, Oracle, MySQL, Firebase, Docker, AWS, spaCy, Doccano
**Language:** Vietnamese [Native], English

## RELEVANT COURSES

Object-Oriented Analysis and Design, Software Engineering, Computer Network, Operating Systems, Database Systems, Design of Software Systems, Artificial Intelligence, Machine Learning, Natural Language Processing, Information Retrieval, User Experience Design

## EXPERIENCE

**IT Manager,** Homewatch Caregivers, Bridgewater MA **Jan 2022 – Present**
- Installed and configured appropriate software and functions according to specifications.
- Developed and maintained local networks that optimize performance.
- Maintained and updated relevant data from employees and customers.

**IT Manager,** Western New England Medical Transport, Remote **Mar 2022 – Present**
- Managed applications for drivers and transportations.
- Organized and reported transporting data for HR.

**Wildlife Trafficking REU,** National Science Foundation, WPI **May – Aug 2022**
- Conducted in-depth research on various social platforms to detect, monitor, and analyze wildlife trafficking/trading activities.
- Operated with convicted trafficker to track and report trafficking intelligence within private messaging applications.
- Utilized Instaloader API to collect datasets of Instagram posts with wildlife keywords.
- Managed and enhanced a robust database of wildlife crimes.

**Software Engineering Intern,** Change for Change, Remote **May – Aug 2021**
- Developed a Chrome extension incorporating Figma interface designs.
- Integrated synchronous Firebase database to store users' information and activities.
- Implemented Google Authentication handled by Firebase Auth and social media sharing.

## PROJECTS

**Wildlife Crime Media Aggregator, Major Qualifying Project,** WPI **Aug 2022 – Apr 2023**
- Operated as a three-person team developing Name Entity Recognition (NER) models to identify and document wildlife trafficking information from news media.
- Collected and annotated relevant entities from Indian online news articles.
- Trained and evaluated six unique NER models with combinations of distint architectures (Single vs Composite) and methods (Tok2vec vs Transformer) as well as default models.
- Designed static website incorporating interactive Tableau visualizations for extracted data.

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**Subreddit Classification,** WPI **Jan - May 2023**
- Collected and vectorized text data from subreddit of various categories using Async PRAW.
- Implemented unique classification models and visualized classified categories with t-SNE.

**Yelp Restaurant Review,** WPI **Aug – Dec 2022**
- Developed NLP models on sentiments of users' reviews with a three-person team.
- Analyzed popularity and threshold of sentiments through multi-label and multi-class classifications with Fine-Tune BERT and LSTM Neural Network models.
- Prototyped and optimized prediction model for sentiment score with Keras Sequential.

**AWS Store Management System,** WPI **Aug – Dec 2022**
- Operated as a four-person team developing full-stack store applications with REST API.
- Implemented lambda functions corresponding to users' interactions and stores' features.
- Stored relevant data of users' locations, products, and store structure through RDS.
- Communicated with front-end developers to update and test functionalities.

**Herbarium Classification,** WPI **Mar – May 2022**
- Developed plant classification model using Herbarium specimen images dataset.
- Optimized performance with Softmax Regression and TensorFlow Keras Neural Network.
- Applied principle component analysis on data to fasten training and improve accuracy.

**Big Data Management and Analytics,** WPI **Jan – Mar 2022**
- Generated and stored data in HDFS database hosted by Docker.
- Implemented and optimized variations of K-Means algorithms with Hadoop MapReduce.
- Developed COVID-19 application detecting infection by location proximity in Spark-RDDs.

**Interactive Qualifying Project,** Capacity Zurich, Switzerland **Aug – Oct 2021**
- Researched and interviewed over twenty stakeholders and organizations on entrepreneurship programs, limitations, and opportunities.
- Developed a scaling plan for Capacity entrepreneurship programs.

**Brigham & Women's Hospital Application,** WPI **Jan – Mar 2021**
- Competed in an eleven-person team developing full-stack applications in an industrial environment utilizing Agile development methodologies with JavaFX and SQL.
- Developed an indoor pathfinding application, map builder, COVID-screening survey, integrated service request modules, and parking features.
- Served as a technical leader of the database team: trained team members on SQL, designed the database following the singleton facade design pattern and connected FXML controllers.

**Foundations of Data Science,** WPI **Mar – May 2020**
- Analyzed Twitter trends measured by retweets and popular hashtags in Python.
- Prototyped salary prediction model of MLB players using sklearn.

**Bose Frame Preview,** WPI **Jan 2020**
- Collaborated to program an AR experience of Bose Frames in Python with OpenCV.
- Designed interactive website incorporating the AR features in real-time.