Ben Badnani

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EDUCATION

Boston University, Boston, MA

Master of Science in Artificial Intelligence - *GPA: 3.74* *Sep. '23 – Aug. '24*

Bachelor of Arts in Computer Science *Sep. '18 – May. '23*

- Relevant Courses: Stochastic Processes, Real Analysis, Sketching Algorithms, Time Series, Machine Learning

Activities

Teaching Assistant for CS 543: Algorithmic Techniques for Taming Big Data *Jan. '23 – May. '23*

Vice President, Tech Director, TAMID Group at Boston University *Jan. '22 – May '22*

EXPERIENCE

Boston University *May. '23 – Present*

Theoretical Computer Science Research: Universal Sketching

- Working on a thesis for the Universal Sketching Problem.
- The proposed algorithm will yield an additive error estimate using at most polylogarithmic space once the proofs are completed.
- Improves on the currently existing theory by covering a much broader class of analytic functions for which there are currently no known solutions for.

Boris FX, Boston *May '22 – Oct. '22*

Machine Learning Researcher – Python (Pytorch/Hugging Face/OpenCV/Kornia)

- Progressed research and implementation of a deep learning solution to a temporally consistent monocular video depth estimation model.
- Designed new deep learning architectures, incorporating concepts from optimal transport, convex optimization, projective geometry, stable diffusion, and GANs.

CBS News, Boston *Sep. '21 – Dec. '21*

Data Science Intern - Python

- Used statistical inference to correlate broadband access with neighborhood characteristics (race composition, median income, etc.) per zip code and block group using US census datasets.
- Created an interactive map of Boston displaying demographic and economic data per the client's request.

Adverifai, Tel Aviv *Sep. '21 – Dec. '21*

Machine Learning Engineer Intern – Python (Pytorch/Spacy/NLTK/Scikit-learn), Azure

- Used computer vision, NLP, and deep neural networks to map advertisements to products with a confidence score, and predict categories for ads that were not mapped to products, in a scalable fashion.
- Increased model accuracy from 81.62% to 86.87% on the validation set through optimization and tuning.

SKILLS

Programming Languages: Python, C, Bash, Java, JavaScript.

Frameworks and Tools: PyTorch, Hugging Face, OpenCV, Kornia, scikit-learn, spaCy, NLTK, Azure.

PROJECTS

Bouncer - C/Python: Developing a sketching algorithms Python library, built in C, using the C/Python API, that allows you to approximate information about data given in the form of a stream.

Medium Articles: Writing an introductory guide for the Count-Min Sketch in my freetime: Universal Hashing and The Count-Min Sketch: Analysis and Implementation in Cython (In progress).