Neha Nishikant
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Education

- **Carnegie Mellon** M.S in Computer science, Expected Graduation Dec 2022
- **Carnegie Mellon** B.S in Computer science, Machine learning concentration, Class of 2022 (GPA: 3.82)

Skills

- **Languages/Platforms**: Python, C, Go, C++, Java, AWS, Standard ML
- **Machine Learning**: PyTorch, Tensorflow, Databricks (Apache Spark)

Experience

- **Master's Thesis Area**: Information retrieval for multi-hop question answering systems
  - Advisor: Prof Eric Nyberg
  - Using compositional learning on language models to answer "multi-hop" queries in StrategyQA dataset
  - Augmented StrategyQA baseline models to include Facebook's Dense Passage Retrieval which provides better information retrieval than BM25, their current system
  - Working to modify Facebook AI's Multi-hop Dense Retrieval model to further improve QA accuracy
- **Returning Software Engineer and Data Science Intern at Microsoft** Redmond (Summer 2021) Scheduler Team
  Designed and built classification models using BERT to predict the likelihood that a meeting would be rescheduled in the future to enhance the intelligence of *Cortana as Email Scheduling Assistant*
  - Overcame data challenges including heavily unbalanced data to develop models with high accuracy
  - Used metrics (accuracy, precision, and recall) and performed data analysis to understand performance
  - Performed data collection and feature selection to derive dataset
  - Based on learnings of analysis, launched an automated data collection form to improve data quality.
- **Software Engineer and Data Science Intern at Microsoft** Redmond (Summer 2020) Scheduler Team
  Used NLP models to enhance *Cortana as Email Scheduling Assistant* for meeting automation within Outlook
  - Added automation for adding attendee to existing meetings
  - Automated detection of meeting when referenced via new email thread, known as rethread scenario, by extracting time utterances and attendees
  - Brought manually-created meetings in Cortana's scope, known as takeover scenario
  - Automated rescheduling meetings for rethread scenario
- **SURF research grant recipient** at Carnegie Mellon's MultiComp Machine Learning Lab (Summer 2019)
  - Implemented machine learning transformer model using PyTorch in the context of language translation from the Google Research paper "Attention Is All You Need"
- **TA for Mathematical Foundations for Computer Science** 15-151 (Fall 2019, Fall 2020)

Projects/Apps https://github.com/NehaNishikant

- Created and trained **double-column VGG neural net** to score images based on aesthetic value (Fall 2020)
  - Prepared and synthesized large data for our specific model architectures
  - Leveraged modern machine learning techniques including transfer learning, double-column architecture, and batch normalization
    https://github.com/NehaNishikant/ava_downloader/blob/master/Deep_Learning_Final_Paper.pdf
- Won **HACKJA Hackathon** 2018 in Cybersecurity/Hardware category: Created two-factor authentication system with secure email/password verified through firebase and Arduino light-up multidigit code
- Won **FemmeHacks Hackathon** 2018 at UPenn for best use of Google API: App with live camera view to read/track the calories from nutrition label using OCR from Google Cloud Vision API