Abhishek Vijayakumar

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LINKS

Website: **inkyubeytor.github.io**
GitHub: **inkyubeytor**
LinkedIn: **abhishek-vijayakumar**

EDUCATION

CARNEGIE MELLON UNIVERSITY
BS in AI/CS
4.00 / 4.00 | 2019 - 2023

UNIVERSITY OF MINNESOTA
Dual Enrollment
4.00 / 4.00 | 2014 - 2019

SKILLS

PYTHON
scikit-learn, Keras, PyTorch
spaCy, NLTK , Gensim
NumPy, Pandas, matplotlib, seaborn
Flask, BS4

WEB
React, AngularJS
JavaScript, TypeScript, HTML, CSS

OTHER
C, Rust, SML, R, MySQL
LaTeX, GCP, Cordova, Agile

SELECTED COURSEWORK

Artificial Intelligence
Machine Learning
Modern Regression
Computer Vision
Natural Language Processing
Computational Forensics & AI
Constructive Logic
Computer Systems
Algorithm Design and Analysis

PUBLICATIONS

[1] T. Byun, V. Sharma, A. Vijayakumar, S. Rayadurgam, and D. Cofer. Input prioritization for testing neural networks. In *2019 IEEE International Conference On Artificial Intelligence Testing (AITest)*, pages 63–70, 2019.

[2] T. Byun, A. Vijayakumar, S. Rayadurgam, and D. Cofer. Manifold-based test generation for image classifiers. In *2020 IEEE International Conference On Artificial Intelligence Testing (AITest)*, pages 15–22, 2020.

EXPERIENCE

DATA SCIENCE INTERN | Verizon - System Performance
Jun 2021 - Aug 2021

- Created machine learning models to determine causes of poor handovers.
- Analyzed network parameters to identify impacts of tunable parameters.

TEACHING ASSISTANT | Functional Programming
Jan 2021 - May 2021

- Taught recitation sections of up to 30 people.
- Developed new course assignment content.

CMU REU | Verdant: Computational Notebook Versioning
May 2020 - Jul 2020

- Developed a JupyterLab extension in React/Redux and TypeScript.
- Developed a pipeline to classify chart images.

CMU INDEPENDENT STUDY | AI-Assisted User Research Tools
Jan 2020 - May 2020

- Developed a pipeline for summarizing research interview data and comparing textual data to find outliers.

UMN RESEARCH INTERN | Architecture and Analysis for High-Assurance Autonomy
Sep 2018 - Aug 2019

- Developed methods of test generation for neural networks using VAEs.
- Empirically analyzed input prioritization methods for lowering the cost of labeling neural network test data.
- Wrote interfaces and automated data collection tools for X-Plane 11.

SELECTED PROJECTS

COMPUTATIONAL LITERATURE | Blog Series

- Wrote an ongoing series of blog posts applying NLP techniques to extract linguistic and literary insights from prose.

LU PARTITION | Princeton Gerrymandering Project

- Implemented algorithms for use in automatic generation of district maps.

QA-QG SYSTEM | NLP Semester Project

- Designed and built an end-to-end system to generate and answer questions on the text of Wikipedia articles.
- Worked with spaCy, NLTK, and BERT technologies.

RECIPE DELTA | HackCMU Project

- Developed a web application to suggest online recipes requiring minimal extra ingredients beyond those on hand.

EDUPASS | Startup

- Designed and built a cross-platform application to track student attendance and analyze activity during flexible hours.
- Led the company as CTO, working with schools on deployment.
- Established Agile process in the team and worked with overseas development team to coordinate enhancements.
- Developed AngularJS and Cordova frontends with LAMP backend.