Abhishek Vijayakumar

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EDUCATION

CARNEGIE MELLON UNIVERSITY
BS in Artificial Intelligence
4.00 / 4.00 | 2019 - Present

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

MOUNDS VIEW HIGH SCHOOL
High School Diploma
4.00 / 4.00 | 2015 - 2019

SELECTED COURSEWORK

COMPUTER SCIENCE
Artificial Intelligence
Machine Learning
Computer Vision
Natural Language Processing
Computational Forensics & AI
Algorithm Design
Parallel Algorithms
Computer Systems
Constructive Logic
Functional Programming
Theoretical Computer Science

MATHEMATICS
Cryptology
Dynamical Systems
Graph Theory

STATISTICS
Regression
Stochastic Processes

LINKS

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

SKILLS

PYTHON
Keras •PyTorch •sklearn •spaCy •NLTK •NumPy •Pandas •Flask •BS4

WEB
JavaScript •TypeScript •React •AngularJS •HTML •CSS

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

EXPERIENCE

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
- Performed a landscape analysis of current methods in abstractive and extractive text summarization

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

EDUPASS | JA Nationals - FedEx Access Award

- 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 of software and training plans.
- Established Agile process in the team and worked with overseas development team to coordinate enhancements.
- Developed AngularJS/Cordova frontends with LAMP backend.

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.

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.