KYRAN ADAMS

Data Science, Machine Learning, & Software Engineering

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A computer science undergraduate with extensive experience in software design and development, data science modeling tools, formal methods for analyzing software, and machine learning models. In my spare time, I experiment with computer art and practice piano.

EDUCATION

Rice University: B.S. in Computer Science, Minor in Data Science (Houston, TX)

7/17 – 5/21

GPA: 3.8 / 4.0; **Relevant Coursework**: Data science tools & models, Formal methods & software verification, Advanced object oriented programming, Honors linear algebra, Multivariable Calculus

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SKILLS

Languages: Python, Java, R, Matlab, Golang, Haskell, SQL, Ocaml, C

Technical Skills: Data mining, Predictive model building, Software architecture, Formal verification

Packages: Tensorflow, PyTorch, Numpy, Apache Spark, Hadoop MapReduce

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EXPERIENCE

Research Intern: Rice Intelligent Software Systems Lab (Houston, TX)

9/18 – Present

Investigating formal methods to guide the building of next-generation software systems. Creating a novel system based on Generative Adversarial Networks and abstract interpretation to define a new theoretical notion for safety in neural networks.

Data Science Intern: Rice Data Science Summer Program (Houston, TX)

5/18 – 8/18

Built a data-driven tool for NASA to evaluate sufficient study sample size in exploratory research settings using less than 100 data points with application to predicting decreases in sensorimotor abilities after spaceflight.

Data Science Intern: McNair Center for Entrepreneurship and Innovation (Houston, TX)

10/17 – 5/18

Developed web crawler and recurrent neural network to generate 40,000+ matchings between 300+ accelerator programs and their startups to analyze effectiveness of accelerator programs.

PROJECTS

Project Manager - Schlumberger VR Training System (COMP 410)

1/20 – 5/20

Led a team of 27 students to create a cloud-hosted employee training management platform that serves virtual reality training modules and captures useful trainee analytics. Designed team workflow and worked with client to build a scalable, extensible, & secure system.

First Place - Rice COVID-19 Houston Response Projects

4/20

Developed an interactive data visualization to explore the complex predictors that affect mobility during COVID-19 with a focus on policy implications.

Narcissus - Neural Art Installation

12/19 – 1/20

Created a neural network system to calculate facial features of a viewer and create a corresponding imaginary celebrity face to bring attention to the unintuitive relationship between data and reality. Installed in Rice Media Center.

Natural Adversarial Example Finder for Neural Networks in Health

4/18 – 5/18

Implemented system for finding realistic MRI images that fool cancer-detecting models. Showed effectiveness on various deep neural networks and statistical models.

Constrained Parameter Optimizer for Programs

10/18 – 11/18

Developed system for finding optimal parameters for an input program while provably maintaining safety conditions using differentiable abstract interpretation. Demonstrated finding optimal parameters 90% of the time on thermostat and car control programs.