

Ethan N. Lyon
yalonthen@gmail.com
Houston, Texas 77006

Education:

Rice University

M.E.E. – Master’s in Data Science specialized Electrical Engineering

May, 2021

G.P.A.: 3.93/4.0

Rice University

B.S. - Electrical Engineering

December, 2018

Relevant Courses:

Deep Learning

Learning from Sensor Data (ML Course)

Information Theory

Topics in Machine Learning

Digital Signal Processing

Computer Vision

Work Experience:

Nov. ‘25 - Now **NRG Energy, Houston, Texas; Senior Data Scientist**

Continuing my duties as a Senior Data Scientist with ownership of fraud and bed debt detection + mitigation products, and as a fraud subject matter expert

April ‘22 - Nov. ‘25 **NRG Energy, Houston, Texas; Data Scientist**

Developed multiple end-to-end machine learning models for fraud prediction and mitigation, including novel realtime fraud detection and prevention via API, saving the company over \$10MM annually. Due to the successful development of the realtime model - a first of its kind for NRG - I was honored with an award for innovation at the company out of 300 total nominees.

Conducted analyses and advised business on Fraud mitigation strategies in an adversarial environment.

Leveraged payment and credit data to advise new fraud and customer acquisition strategies.

Utilized causal analysis to determine effectiveness of credit policy and deposit strategy.

Used PySpark, DataBricks, and Azure DevOps to create models and conduct analyses.

June- Aug 2019 **Chevron, Houston, Texas; Data Science Intern**

Wrote scripts for automatic data science model deployment to Microsoft Azure cloud.

Improved performance of on-site server cluster by deep analysis of local queries.

June - Dec 2018 **Rakuten Inc., Tokyo, Japan; Software Engineer and Data Science Intern**

Worked on Data Science projects related to fraud detection, prophet forecasting, and budget automation. Created a UI to display relevant KPI’s in a new ecosystem.

Summer 2017 **Tokyo Institute of Technology, Tokyo, Japan; Summer Research Intern**

VR Tactile Feedback Device

Created device to provide more realistic tactile feedback in virtual reality using Arduino

Projects:

- Summer 2020 **Research – Bayesian Modeling for Health Data - Rice University**
Conducted novel research to implement and evaluate a novel time-series, Bayesian model for predicting health outcomes in students. Python and R were mostly utilized for implementation. The paper, featured at a conference in NeurIPS 2020 and published and presented in EMBC in November 2021, can be found and read below.
- Fall '17- Spring '18 **Auto Flight Stabilization for Rockets**
Collaborated with mechanical engineers to program a control system on a Linux embedded device to actively stabilize the flight path of a rocket

Publications:

- (2021) “Health Label and Behavioral Feature Prediction Using Bayesian Hierarchical Vector Autoregression Models” In EMBC, was published and presented in November 2021
Link: <https://ieeexplore.ieee.org/document/9630732>
- (2020) “Bayesian Hierarchical Vector Autoregression Models for Health Label and Mobile Sensor-based Behavioral Feature Prediction.” Presented in NeurIPS/Machine Learning for Mobile Health.

Skills:

- Python** *Advanced – Used daily for numerous data science projects, internships, and classes*
- SQL** *Advanced – Used SQL daily to query large corporate datasets*
- PySpark** *Advanced – Frequently used PySpark for Data Science at NRG*
- Machine Learning** *Proficient - Created and owned End-to-End, production Machine Learning models*
- Fraud Mitigation** *Proficient - Worked in an adversarial environment to detect and mitigate sales fraud*
- Azure DevOps** *Proficient - Used to manage model pipelines, organized code repos for large scale projects*
- LaTeX** *Intermediate - Wrote and formatted published papers for multiple large conferences*
- R** *Intermediate – Used R to model and explore data in internships and research*

Japanese Language *Intermediate – Studied since 2014, N3 certificate in 2017, with ongoing self-study*

Honors & Activities:

- Winter 2026 Innovation “Game Changer” Award at NRG
I had the privilege of being selected to win an award for innovation out of 300 total nominees due to the successful development of NRG’s first realtime, risk mitigation machine learning model.
- Winter 2017 Japanese Language Proficiency Test – **N3** Certificate
- Summer 2016 Center for Language and Intercultural Communication
Studied Japanese at Sophia University, Tokyo, Japan.
- Fall 2013 Eagle Scout

LinkedIn Profile: <https://www.linkedin.com/in/ethan-lyon-19b866151/>

