Kelsey Luo

KELSEYL2@ILLINOIS.EDU

EDUCATION

University of Illinois Urbana-Champaign

Master of Science in Nuclear Plasma and Radiological Engineering — Expected: May 2022

Bachelor of Science in Nuclear Plasma and Radiological Engineering — May 2020

- Minor in *Mathematics*
- Certificates in
  - *Computational Science and Engineering (CSE),*
  - *Arms Control and Domestic and International Security (ACDIS)*
- Relevant coursework:
  - *Data Science Programming Methods*: conducted a cost benefit analysis of statistical, random forest, and xgboost ML models for identifying clickbait fraud within 100,000 data entries
  - *Methods of Applied Statistics*: utilized R to implement linear regression techniques amongst 10,841 entries for determining ratings of apps within the Google Play Store based off of 12 predictors (numerical and categorical)

WORK EXPERIENCE

Barclays Investment Bank ~ *Technology Developer Summer Analyst in Financial Control & Stress Testing* — Whippany, NJ, Summer '19

- Developed POC statistical, regression, and k-nearest neighbor models to validate new quarterly balance sheet statements for assistance in automating big data quality assurance for federal Comprehensive Capital Analysis and Review (CCAR) inputs

Discover Financial Services ~ *Cybersecurity and Risk Analysis Intern* — Riverwoods, IL, Summer '18

- Collected and analyzed thousands of data entries around Discover's asset pipeline. Built audits and reports to generate further insight on improving existing vulnerability management guidelines
- Researched AI and machine learning methodologies such as neural networks for improving existing models of fraud detection efficiency in the credit risk industry

Socio-Technical Risk Analysis Research Group ~ *Research Assistant* — Urbana, IL, Jan.- Aug. '18

- Conducted common cause failure model simulations and literature reviews to successfully justify leveraging uncertainty quantification methods for the purposes of model validation

Radiation Detection and Isotope Identification Research Group ~ *Research Assistant* — Urbana, IL, Oct '16 – May '17

- Collected over 50 GB of gamma radiation data from Cs-I detectors and tested effectiveness of hardware-software solutions of distributed mobile sensor networks applicable to nuclear nonproliferation, homeland security, and emergency response

SKILLS & RECOGNITION

- Comfortable with Mac, Windows, Microsoft Office, Python, MATLAB, Java, R, SQL, LaTeX, and RISKMAN with exposure to C++, Docker, Tableau
- Co-author of *Low-Cost Microreactor for Developing Energy Markets* (2019)
  Award for Best Undergraduate Presentation in Advanced Reactors at ANS Student Conference
- First author of *Distributed Mobile Sensor Network for the Detection of Radioisotopes* (2017)
  Award for Best in Track for Isotopes and Radiation at the American Nuclear Society Student Conference

LEADERSHIP & ACTIVITIES

- TA for Nuclear Power Engineering — June '20 – Aug. '20
- Worldwide Youth in Science and Engineering Program Lab Assistant — June '20 – July '20
- TA for Nuclear Weapons and Arms Control — Jan. '19 – May '20
- Lead Engineering Learning Assistant — Jan. '19 – Dec. '20
- Women in Engineering Orientation Department Lead — Jan. '19 – Dec. '20
- TA for Introduction to Nuclear Plasma and Radiological Engineering — Fall '17 – Dec.'20
- External Vice President, American Nuclear Society — May '18 – May '19