

Ioana-Andreea Cristescu

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EDUCATION

University of Richmond , Richmond, VA	May 2024
<i>Bachelor of Science: Computer Science, Mathematics; Minor: Integrated Science</i>	GPA: 4.0
<ul style="list-style-type: none">• Honors: Richmond Scholars Program (full academic scholarship awarded to 0.2% of the applicants)	
Awards	
• Finalist , ISS Finals, Zero Robotics Tournament (organized by MIT, NASA, and ESA), Boston	2019
• Bronze Medalist , National Phase, Romanian Mathematics Olympiad, Romania	2016-2019

SKILLS

- **Technical:** Python, C/C++, Java, R, SQL
- **Software and Cloud:** Linux/Unix, Git, AWS Lambda, DynamoDB, SQS, Smithy, Babel, AFL
- **Web & Design:** HTML, CSS, PHP, JavaScript, TypeScript, React, NodeJS
- **Machine Learning:** TensorFlow, PyTorch, Keras, AutoGluon, SageMaker

WORK EXPERIENCE

Amazon Web Services	Seattle, WA
<i>Software Development Engineer Intern</i>	May 2023-Present
<ul style="list-style-type: none">• Reengineered team's framework core into an AFL like feedback-driven fuzzer for web application security scanning• Improved the framework's URL scanning coverage by 46% by developing Babel instrumentation plugins for branches, function calls, and API object property access, and enabling the alteration of API return values• Developed a five-level challenge ladder of React web apps to test and scale the instrumentation	
Data Science Department, University of Richmond	Richmond, VA
<i>Machine Learning Research Assistant</i>	March-May 2023
<ul style="list-style-type: none">• Analyzed Android and iOS sensing data for ADHD diagnosis, extracting key features from raw activity data• Gathered weekly self-reported ADHD scores from patients, calculating correlations with activity features• Optimized and evaluated machine learning models (SVM with RBF kernel, Random Forest, XGBoost) for ADHD prediction, achieving a top F1 score of 0.86	
Data Science Institute, University of Chicago and Fermilab	Chicago, IL
<i>Data Science Research Assistant</i>	June-December 2022
<ul style="list-style-type: none">• Conducted mass analysis of galaxy clusters, contributing to a forthcoming publication in the Royal Astronomical Society journal on particle physics and cosmic expansion• Developed a Python-based simulation for generating optical views of galaxy clusters using colossus and astropy libraries and by incorporating optical beam convolution and Gaussian noise• Evaluated the efficacy and constraints of several deep learning algorithms, including CNN, DenseNet, ResNet, and Bayesian Neural Networks via TensorFlow	
Axians	Portugal
<i>Data Science Intern</i>	July-August 2021
<ul style="list-style-type: none">• Collaborated on a 6-person team project, analyzing Google Earth Engine geospatial data to study vegetation encroachment impact on power line constructions• Utilized Random Forest algorithm for pixel and geographic feature classification, achieving accuracy of 96.7% (low-density vegetation) and 96.9% (high-density vegetation)• Preprocessed Sentinel-2 data, employing cloud masking and vegetation indices (NDVI, EVI)	
Computer Science Department, University of Richmond	Richmond, VA
<i>Computer Science Research Assistant</i>	May-July 2021
<ul style="list-style-type: none">• Developed a C++ linear programming algorithm to address factors leading to inequity in the US liver allocation system, using projected event sequences (patient registration, liver donation, death)• Implemented Minimum Cost Maximum Flow algorithm for future simulation and demonstrated inefficiency of Greedy and Max Flow approaches	

LEADERSHIP EXPERIENCE

Association for Computing Machinery	
<i>Education Chair</i>	January 2021- Present
<ul style="list-style-type: none">• Launched a new Mentor-Mentee program to pair people with same interest for guidance and mentorship• Guided the development of an app for the university's psychological health services that assists with students' mental health and well-being	