

Maham Haroon

Data Scientist - Cyber Intelligence

Email: mahamharoon@icloud.com

LinkedIn: <https://www.linkedin.com/in/mahamharoon> Portfolio: <https://www.mahamharoon.com>

GitHub: <https://github.com/Maham-H> Medium: [@MahamsMultiverse](https://medium.com/@MahamsMultiverse)

ABOUT ME

Alongside being a skilled **Data Scientist**, I possess advanced knowledge in the realm of **Cyber Security** and **AWS**. My unwavering passion for exploring novel avenues, coupled with my innate aptitude for troubleshooting and problem-solving, has allowed me to achieve exceptional outcomes in my previous endeavors. Demonstrating my adaptability, I swiftly assimilate new subjects, processes, and environments, and excel in high-pressure work environments, with an unyielding focus on delivering tangible results.

STRENGTHS

Python · Spark · SQL · Git · Tensorflow · Amazon AWS · Scikit-Learn · PyTorch · Jenkins · Tableau · Plotly · Solutions Architect (AWS) · MATLAB · Machine Learning · Big Data · Business Analytics · NLP · AI · Predictive Modelling · Cybersecurity · Bayesian · PGM · Statistics · Efficient · Autonomous · Problem-Solving · Team Work · Proactive ·

RELEVANT WORK EXPERIENCE

Founder / Data Scientist – KuberSignal LLC, Boston, MA

Sep 22 - Present

Responsible for decision-making, prototyping, architecting, Data Science, Analytics and content writing. ([link](#))

Content: Navigating the Data Privacy Paradox: Investigating the Gap between Concerns and Actions ([blog](#)) ([Whitepaper](#))

App (Scam-Ninja): Developing an AWS-integrated app to safeguard against social engineering attacks on mobile devices.

Data Scientist - Thought Leadership – BitSight, Boston, USA

Aug 21 - Jun 22

Responsibilities included: big-data analysis, creating useful insights and visualizations for the thought leadership team.

- Vulnerability-testing viability classifier (NLP, classification)
- *Data-source* catalog generation (*ETL, Jenkins, Spark*)
- *Proxy-Ratings algorithm design* (Statistics)
- Ransomware Likelihood *model* (*Predictive Modeling*)

Contributed Content:

- From Months to Minutes: Can New Regulations Accelerate the Cyber Incident Disclosure Process? ([blog](#)) ([Whitepaper](#))
- Russia-Ukraine and the Cyber Threat Landscape ([link](#))
- BitSight Apache Risk Analysis Highlights Need To Address CISA “Known Vulnerabilities” ([link](#))
- BitSight Insights: Mobile Application Risk Report ([blog](#)) ([Whitepaper](#))

Consultant - Data Scientist – Lakson Group - Sybrid Limited, Islamabad, PK

Oct 20 - Jan 21

Responsible for initial research and prototyping of a product for brand sentiment analysis in both English and Urdu languages, based on Twitter and Facebook data utilized in multiple ML algorithms.

TA/RA - CICS, University of Massachusetts, Amherst, USA.

Oct 17 - May 21

- Assisted as a Teaching *Assistant* for subjects including Artificial Intelligence, Reasoning Under Uncertainty, and Web Programming, providing guidance and support to students.
- Contributed as a Research Assistant at DaROS Lab, actively participating in cutting-edge research projects in Robotics and Machine Learning. Worked on the state-of-the-art Mini-Cheetah Robot by MIT.

TA/RA - SMME, National University of Science and Technology, Islamabad, PK.

Feb 16 - Jun 17

- Assisted as a Teaching Assistant for Artificial Intelligence, Fuzzy Control Theory, Mobile Robotics, and Robotics.
- Served as a Research Assistant at RIME Lab, participating in research projects encompassing Robotics, Computer Vision, and Machine Learning. Specifically, worked with advanced autonomous systems such as the NAO Robot and Assistive Wheelchair.

EDUCATION & RELEVANT CERTIFICATIONS

<u>Certificate - AWS Certified Solutions Architect - Professional</u>	Apr 23 - Jun 23
<u>Training - Certified Ethical Hacker (C EH) – EC-Council. USA</u> Certificate - Certified Ethical Hacker (C EH Master) <ul style="list-style-type: none">• Certificate - C EH Theory; score: 113/125• Certificate - C EH Practical; score: 20/20	Mar 22 - Dec 22
<u>MS Computer Science - (PhD Candidate)</u> College of Information and Computer Science , University of Massachusetts, Amherst, USA.	Sep 17 - Jun 21
<u>Certificate - Business Foundation Series for Scientists and Engineers (link)</u> Isenberg School of Management , University of Massachusetts, Amherst, USA. Seminars: Negotiations Organizational Strategy Business Intelligence Operations Management Finance Marketing Strategy Accounting for Decision Making Leadership Strategies	Jun 19 - Jul 19
<u>MS - Robotics and Intelligent Machine Engineering (Graduated at the top of my class)</u> SMME , National University of Science and Technology, Islamabad, PK.	Sep 15 - Aug 17
<u>BS - Electrical Engineering</u> Dept. of EE , Pakistan Institute of Engineering and Applied Sciences, Nilore, PK.	Sep 10 - Jun 14

RELEVANT ACADEMIC PROJECTS

[Tiny Nets – Small parallel neural nets for space-efficient computation.](#)

A neural network variation of divide and conquer for inexpensive computation at test time. Reduced test time by 97.76% (8ms to 186us) and the # of parameters from $3.51e12$ to $5.83e5$ (by 99.97%), while simultaneously decreasing mean squared error.

[Rapid Identification of Best P-Sparse Nets – Removing redundant neurons from a neural network. \(link\)](#)

Eliminated 83% of redundant network parameters by rapidly identifying the best p-sparse networks in the first few training epochs.

[Autoencoder Distinctive Capability – Potential for identifying relationships in images. \(link\)](#)

[Grammatical Error Correction – By encoding words as pixels in images. \(link\)](#)

Master's Thesis: "Bidirectional Neural Networks for Simultaneous Place and Object Classification."

Bachelor's Thesis: "FPGA-Based Visual Object Tracking."

EXCELLENCE AWARDS

Competitions Expert by Kaggle (top 1.01%)	Jan 24
Silver Medal in Santa 2023- The Permutation Puzzle by Kaggle	Jan 24
Bronze Medal in Capture the Flag competition by AI Village Capture the Flag @ DEFCON31: Collect flags by evading, poisoning, stealing, and fooling AI/ML	Nov 23
Recipient of Open Group's Badge in Professional Communication for Master Data Scientist	May 23
Recipient of Inclusion RSS@18 Fellowship	Mar 18
Recipient of President's Gold Medal	Oct 18
Recipient of ICT Endowment Scholarship	Feb 16- Aug 17
3rd prize in "Graduate Research Poster Competition 2016" at Research Centre for Modeling & Simulation.	2016

Published Works

PUBLICATION- PREPRINT

Haroon, Maham. "What to Prune and What Not to Prune at Initialization." arXiv preprint arXiv:2209.02201 (2022). ([Link](#))

WHITEPAPERS

Navigating the Data Privacy Paradox: Investigating the Gap between Concerns and Actions ([Blog-post](#)) ([Whitepaper](#)) ([@youtube-video](#)) ([Press-release](#))

From Months to Minutes: Can New Regulations Accelerate the Cyber Incident Disclosure Process? ([blog](#)) ([Whitepaper](#))

BitSight Insights: Mobile Application Risk Report ([blog](#)) ([Whitepaper](#))

ARTICLES

BITSIGHT

Russia-Ukraine and the Cyber Threat Landscape ([link](#))

BitSight Apache Risk Analysis Highlights Need To Address CISA “Known Vulnerabilities” ([link](#))

TOWARDS DATA SCIENCE - A Medium Publication

Understanding AUC Scores in Depth: What’s the Point? ([link](#))

Beyond Bar Charts: Data with Sankey, Circular Packing, and Network Graphs ([link](#))

P-Values: Understanding Statistical Significance in Plain Language ([link](#))

Exploring Counterfactual Insights: From Correlation to Causation in Data Analysis ([link](#))

Beta Distributions: A Cornerstone of Bayesian Calibration ([link](#))

To 1 or to 0: Pixel Attacks in Image Classification ([link](#))

Series: Data Bias Hackers ([link](#))

1. Cognitive Biases in Data Science: The Category-Size Bias ([link](#))

AI Advances - A Medium Publication

Beyond the Hype: Google DeepMind’s Gemini, and its superior performance on the MMLU benchmark([link](#))