

# MAHAM HAROON

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*Outstanding candidate with exemplary record of data science and cyber intelligence success*

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Proven talent for aligning industry strategy and objectives with established data science and cyber intelligence paradigms to achieve maximum impact with minimum resource expenditure. Results-focused thought leader with a marked interest in and suitability for data science management opportunities. Strategic mindset to orchestrate vital initiatives to standout success, partnering with cross-functional project teams and external stakeholders alike. Exceptionally dedicated professional with keen interpersonal, communication, and organizational skills for the modern scientific landscape.

## CORE COMPETENCIES

- Cyber Security Protocol
- Tech Tools & Solutions
- Project Coordination
- Prototyping & Architecting
- Application Development
- Content Writing
- Problem-Solving Aptitude
- Process Improvements
- Research & Analytics

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## PROFESSIONAL EXPERIENCE

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KUBERSIGNAL LLC, BOSTON, MA, 2022 TO 2024

### FOUNDER / DATA SCIENTIST

- Excel at a range of duties to include decision-making, prototyping, architecting, data science, analytics, and content writing functions. ([link](#))
- Reach out to several investors, reiterating on pitches and foster long-lasting relationships.
- Manage a small team of contract workers for tasks related to data collection, market research, and content writing.
- Stay abreast of the latest advancements in data science, machine learning, and related technologies to enhance skills and knowledge.

### Content

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

### App (Scam-Ninja)

- Developed an AWS-integrated app to safeguard against social engineering attacks on mobile devices (prototype)

BITSIGHT, BOSTON, MA, 2021 TO 2022

### DATA SCIENTIST - THOUGHT LEADERSHIP

- Assumed responsibility for big-data analysis, creating useful insights and visualizations for the thought leadership team, and the following duties:
  - o Vulnerability-testing viability classifier (NLP, classification)
  - o Data-source catalog generation (ETL, Jenkins, Spark)
  - o Proxy-Ratings algorithm design (Statistics)
  - o 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](#))

LAKSON GROUP - SYBRID LIMITED, ISLAMABAD, PAKISTAN, 2020 TO 2021

### CONSULTANT / DATA SCIENTIST

- Enacted 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.

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UNIVERSITY OF MASSACHUSETTS, AMHERST, MA, 2017 TO 2021

**TA/RA - CICS**

- Functioned as a Teaching Assistant providing guidance and support to students in association with Artificial Intelligence, Reasoning Under Uncertainty, and Web Programming.
- Contributed as a Research Assistant at DaROS Lab; this entailed actively participating in cutting-edge research projects in Robotics and Machine Learning, along with working on the state-of-the-art Mini-Cheetah Robot by MIT.

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY, ISLAMABAD, PAKISTAN, 2016 TO 2017

**TA / RA - SMME**

- Fulfilled duties as a Teaching Assistant for Artificial Intelligence, Fuzzy Control Theory, Mobile Robotics, and Robotics.
- Acted as a Research Assistant at RIME Lab; this involved participating in research projects encompassing Robotics, Computer Vision, and Machine Learning, specifically working with advanced autonomous systems such as the NAO Robot and Assistive Wheelchair.

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## ACADEMIC PROJECTS

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Tiny Nets — Small parallel neural nets for space-efficient computation - A neural network variation of divide and conquer for inexpensive computation at test time; also, 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"

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## EDUCATION AND CREDENTIALS

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MS COMPUTER SCIENCE - (PHD CANDIDATE)

*College of Information and Computer Science, University of Massachusetts, Amherst, MA*

MS - ROBOTICS AND INTELLIGENT MACHINE ENGINEERING

*SMME, National University of Science and Technology, Islamabad, Pakistan*

*Graduated Top of Class*

BS - ELECTRICAL ENGINEERING

*Pakistan Institute of Engineering and Applied Sciences, Nilore, Pakistan*

CERTIFICATIONS AND TRAINING

- Certificate - AWS Certified Solutions Architect - Professional
- Training - Certified Ethical Hacker (C | EH) — EC-Council, USA: Certificate - Certified Ethical Hacker (C|EH Master); Certificate - C| EH Theory; score: 113/125; Certificate - C| EH Practical; score: 20/20
- Certificate - Business Foundation Series for Scientists and Engineers ([link](#))
- Seminars - Isenberg School of Management, University of Massachusetts, Amherst, MA - Negotiations | Organizational Strategy | Business Intelligence | Operations Management | Finance Marketing Strategy | Accounting for Decision Making | Leadership Strategies

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## AWARDS

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- Competitions Expert by Kaggle (top 1.01%), 2024
- Silver Medal in Santa 2023- The Permutation Puzzle by Kaggle, 2024
- Bronze Medal in Capture the Flag competition by AI Village Capture the Flag @ DEFCON31: Collect flags by evading, poisoning, stealing, and fooling AI/ML, 2023
- Recipient of Open Group's Badge in Professional Communication for Master Data Scientist, 2023
- Recipient of President's Gold Medal, 2018
- Recipient of Inclusion RSS@18 Fellowship, 2018
- Recipient of ICT Endowment Scholarship, 2016 to 2017
- 3rd Prize in "Graduate Research Poster Competition" at Research Centre for Modeling & Simulation, 2016

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## HONORS

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- Invited Judge at the 2024 Timmy Awards for Best tech for Good category
- Invited Judge at the 2024 SIIA CODiE Awards
- Invited Judge at the 2023 Stevie Awards For Women in Business for Most Innovative product category
- Invited Judge at the 2023 Globe Awards for 18th Annual 2023 Information Technology World Awards
- Invited Judge at the 2023 SIIA CODiE Awards
- Invited Judge at the 2023 Globe Awards for 19th Annual 2023 Cybersecurity World Awards
- Invited Judge at the 2022 Stevie Awards For Women in Business for New Product & Service Awards category
- Invited Judge at the 2022 Globe Awards for 15th Annual 2022 Women in Business and the Professions World Awards

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## PUBLICATIONS

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### Publication - Reprint

- 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](#))**

- 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](#))

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## ADDITIONAL INFORMATION

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**Languages:** English, Russian (basic), Urdu

**Technical Proficiencies:** 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

**Memberships:** British Computing Society (BCS), Asia Pacific Artificial Intelligence Association (AAIA)

**Interests:** Hiking, photography, painting, Pilates, literature