# Faisal Jamil

MACHINE LEARNING ENGINEER · AI SPECIALIST

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## Education

**Jeju National University (JNU)**                                            *South Korea*
PhD. IN ARTIFICIAL INTELLIGENCE                                            *Sep. 2018 - Aug. 2021*
- Thesis Title: "Optimal Energy Trading Service and Resource Management based on SECaaS and AIoT in Smart Nanogrid"

**University of Engineering and Technology**                                  *Pakistan*
M.S. IN COMPUTER SCIENCE                                                   *Sep. 2015 - Feb. 2018*
- Thesis Title: "Adoptive Thermal Aware Routing Protocol for Wireless Body Area Network"

**Muhammad Ali Jinnah University(MAJU)**                                      *Pakistan*
B.S. IN COMPUTER SCIENCE                                                   *Sep. 2010 - Aug. 2014*
- Thesis Title: "Recommendation from Social Network For E-Learner"

## Honors & Awards

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|---|---|---|
| 2018-2021 | **Presidential Medal**, For academic research excellence from 2018-2021 | *Pakistan* |
| Ongoing | **Project Lead**, Developed Secure Threat Intelligence Sharing Platform funded by Innovation Funding Service (Project No: 10119325, £32,000) | *United Kingdom* |
| Ongoing | **Project Lead**, AI-Enabled Secure Remote Monitoring of Elderly funded by ERCIM (Project No: 931103251, £60,000) | *Norway* |
| Ongoing | **Global Talent Endorsement**, Endorsed by the Royal Society of Engineering UK | *United Kingdom* |
| Ongoing | **World's Top 2% Scientist**, Listed by Stanford University(Rank No: 136,748 out of 1,000,000) | *USA* |
| Ongoing | **Research Grant Award**, Secure Intelligent Energy Trading Model funded by Jeju National University (Project No: AD20186514, £5,000) | *South Korea* |
| 2015-2018 | **Government Scholarship**, Funded for Master Studies | *Pakistan* |
| Ongoing | **Editor**, Blockchain MDPI | *Switzerland* |
| 2018 | **Platinum Cup**, Achieved on MVA, Hosted by Microsoft | *Global* |

## Work Experience

**University of Huddersfield**                                    *Huddersfield, United Kingdom*
ASSISTANT PROFESSOR IN AI AND DATA ANALYTICS                                *Mar. 2023 - Present*
- Led research grant proposals and mentored students on AI and machine learning, integrating advanced technologies like deep learning and NLP.
- Served as module leader for AI and Cybersecurity courses, providing hands-on experience and theoretical knowledge.
- Developed the Secure Threat Intelligence Sharing Platform (STISP) using Federated Learning and anomaly detection techniques.
- Implemented adversarial machine learning techniques to detect and mitigate malicious code in neural networks.
- Designed the IncepX-Ensemble Model for ethnicity recognition and face anonymization using deep learning models and YOLO variants.

**Norwegian University of Science and Technology**                           *Norway*
POST-DOCTORAL RESEARCH FELLOW                                              *Jun. 2022 - May. 2023*
- Developed AI-driven IoT solutions for smart city projects, including real-time data processing and predictive analytics.
- Led projects like gamified waste management using deep reinforcement learning and intelligent student evaluation systems using NLP.
- Integrated VR and AR for elderly care through a telepresence system and context-aware robots.

**Big Data Research Center**                                                 *South Korea*
R&D ENGINEER                                                               *Aug. 2018 - June-2022*
- Designed ML models integrated with IoT and blockchain for data security and predictive analysis.
- Developed blockchain-based electronic medical records for healthcare data integrity and security.
- Enhanced indoor navigation accuracy using ML algorithms for mission-critical IoT systems.
- Implemented peer-to-peer energy trading mechanisms for smart grids using blockchain and ML.

**Capital University of Science and Technology**                    *Pakistan*

Instructor ASP.NET (C)                                              *Aug. 2015 - Aug. 2018*

- Taught ASP.NET Core, MVC framework, and Entity Framework, providing practical experience with web API development.
- Guided students on full-stack application development and integration of ML techniques using cloud platforms.

**Microsoft**                                                      *Pakistan*

Software Developer Microsoft (ASP.NET)                             *Aug. 2015 - Aug. 2018*

- Developed web and mobile applications using ASP.NET, integrating ML algorithms for intelligent features.
- Engaged in cloud-based solution development with Microsoft Azure, ensuring secure and scalable deployment.

## Skills

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|---|---|
| Programming Languages | Python, PHP, C/C++, C#, Java, Android |
| Frameworks | MVVM, MVC, CakePHP, Hadoop, Laravel, OpenCV, PowerBI |
| Front-end Frameworks | JQuery, CSS3, HTML5, Bootstrap, AngularJS |
| Persistance | MySQL, PostgreSQL, NoSQL (Mongo DB) |
| CI/CD Tools | GitHub Actions, GitLab , Azure DevOps, AWS CodePipeline |
| MLOps | Azure Machine Learning (Azure ML) |
| Simulators | Mininet, Omnet++, ONOS, EdgeX Foundary |
| Operating Systems | Ubuntu, Debian, Raspbian, Windows. |
| Protocols | IEEE 802.11, HTTP, CoAP, MQTT, LoRA, TCP/IP |
| Tools | MATLAB/Simulink, Sublime Text, Pycharm, Komodo Edit, Visual Studio |
| Software Development | Software Development Lifecycle (SDLC), Agile Methodology |
| Misc. | Wireshark, Packet Tracer, MS Office, Git, Subversion, AWS Webservices |

## Leadership and Citizenship

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|---|---|---|---|
| 2022 | **Student Supervisor**, TEFT-Lab NTNU | | *Norway* |
| Ongoing | **Module Leader**, Courses: AI, Cyber Security, and Distributed Ledger Technology | | *United Kingdom* |
| Ongoing | **Supervision of Research Students**, Undergraduate and Postgraduate Programs | | *United Kingdom* |
| 2019-2021 | **Korea-India Joint Research Funding**, Project: Secure Fitness Service based on IoT Blockchain Network | | *South Korea* |
| 2022-2023 | **ERCIM Research Grant**, Digital Twins for Smart Healthcare Application | | *Norway* |
| 2024 | **Innovation Funding Service Grant**, Project: Secure and Trusted Decentralized Platform for Threat Information Sharing | | *United Kingdom* |

## Projects

**Secure Threat Intelligence Sharing Platform (STISP)**          *Huddersfield, United Kingdom*

University of Huddersfield (UoH)                                  *Mar. 2023 - Present*

- Developed a secure platform integrating Federated Learning and anomaly detection for real-time cyber threat detection and mitigation.
- Enhanced collective threat defense through swarm intelligence and proactive machine learning algorithms.
- Skills: Federated Learning, Cybersecurity, Anomaly Detection, Python

### Detecting and Mitigating Malicious Code in Neural Networks

*Huddersfield, United Kingdom*

UNIVERSITY OF HUDDERSFIELD (UoH)

*Mar. 2023 - Present*

- Applied adversarial training to detect and mitigate malicious code in neural networks, enhancing their robustness.
- Implemented robust optimization techniques for security in adversarial environments.
- Skills: Adversarial Machine Learning, TensorFlow, Keras, Cybersecurity

### Intelligent Ethnicity Recognition and Face Anonymization

*Huddersfield, United Kingdom*

UNIVERSITY OF HUDDERSFIELD (UoH)

*Mar. 2023 - Present*

- Developed the IncepX-Ensemble Model for ethnicity recognition using models like VGG16, ResNet-50, and YOLO variants.
- Implemented privacy-preserving face anonymization using hybrid techniques such as blurring and masking.
- Skills: VGG16, ResNet-50, MobileNet, YOLO, Privacy-Preserving AI

### A Gamified Approach for Optimal Waste Management

*Norway*

NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY (NTNU)

*Jun. 2022 - May. 2023*

- Developed a waste management system using deep reinforcement learning and IoT-Blockchain technology for smart cities.
- Encouraged citizen participation through gamification, improving waste collection efficiency.
- Skills: Deep Reinforcement Learning, IoT, Blockchain, Python

### Intelligent Open-Ended Question Evaluation

*Norway*

NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY (NTNU)

*Jun. 2022 - May. 2023*

- Built an AI model using NLP and optimization techniques to evaluate student exam answers with high accuracy.
- Used particle swarm optimization and gradient descent to fine-tune model parameters.
- Skills: Deep Neural Networks, NLP, Particle Swarm Optimization, Python

### Intelligent Electronics Medical Records Based on Blockchain

*Jeju, South Korea*

BIG DATA RESEARCH CENTER, ETRI

*Feb. 2019 - Aug. 2019*

- Implemented a blockchain-based system for securing electronic medical records with real-time anomaly detection.
- Utilized ML models (RNN, DNN) for predictive analytics in healthcare data.
- Skills: Blockchain, RNN, TensorFlow, Cryptography

### Development of Inertial Navigation in Mission-Critical IoT Systems

*Jeju, South Korea*

BIG DATA RESEARCH CENTER, ETRI

*Mar. 2020 - Jul. 2020*

- Enhanced indoor navigation accuracy using ML algorithms and IMUs in mission-critical IoT systems.
- Implemented Kalman Filters and neural networks for precise indoor positioning.
- Skills: Sensor Fusion, Kalman Filters, Neural Networks, MATLAB

### Academic Library Event Data Analysis and Prediction

*Jeju, South Korea*

BIG DATA CENTER, JEJU NATIONAL UNIVERSITY

*Mar. 2020 - Sep. 2020*

- Built predictive models using decision trees and gradient boosting for academic event analysis.
- Optimized resource allocation based on historical data and guided students in AI model development.
- Skills: Decision Trees, Gradient Boosting, Hadoop, Python

### Development of Service Reference Model and Fitness Application Technology

*Jeju, South Korea*

BIG DATA RESEARCH CENTER, KETI

*Sep. 2020 - Jan. 2021*

- Developed a fitness application using IoT and ML models for personalized health tracking with blockchain security.
- Integrated deep learning and logistic regression for health recommendations.
- Skills: Deep Learning, Logistic Regression, Blockchain, IoT

### Peer-to-Peer Energy Trading Mechanism for Smart Grids

*Jeju, South Korea*

BIG DATA RESEARCH CENTER, ETRI

*Sep. 2020 - Jan. 2021*

- Designed an energy trading platform using blockchain and ML algorithms for forecasting and optimization in smart grids.
- Implemented ARIMA and reinforcement learning models for accurate energy consumption prediction.
- Skills: Blockchain, Reinforcement Learning, ARIMA, Apache Spark

# Publications

### Research Contributions Overview

*Global*

PUBLICATION STATISTICS

*As of 2023*

- Total Number of Citations: 2,643
- H-Index: 23
- I-10 Index: 40
- Cumulative Impact Factor (as per JCR, 2023): 170
- Google Scholar Profile: Google Scholar Link

# References

Available upon request.