UMER MAJEED
Data Scientist
AI & Web3 Engineer

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🎓 scholar.google.com/citations?
user=LrsLEJgAAAAJ
Citations: 600+

SUMMARY

An experienced Data Scientist and innovative Web3 Developer with a Ph.D. candidacy in Computer Science & Engineering. Proficient in utilizing Python, R, SQL, and JavaScript for data analysis, machine learning, and blockchain projects. Skilled in data visualization tools like Plotly and Dash, with a solid foundation in Pandas and NumPy for data manipulation. Expertise in Solidity and Node.js for blockchain technologies and DApps, with a proven track record in implementing smart contracts, DAOs, ERC-20, and ERC-721 projects. Demonstrated success in developing predictive models, conducting in-depth exploratory data analysis, and advancing federated learning and blockchain applications. Published researcher with a focus on leveraging data science, AI, and blockchain for innovative solutions. Eager to apply expertise in statistical analysis, machine learning, and Web3 development to drive impactful insights and contribute valuable insights to dynamic and collaborative teams.

SKILLS

PLs & Frameworks:	Python, R, SQL, C++, Julia, Dash, TensorFlow, PyTorch, Keras, Solidity, JavaScript, Node.js, TypeScript, React.js, Next.js
Libraries & Technologies:	NumPy, pandas, Matplotlib, Plotly, Seaborn, scikit-learn, NLTK, ggplot2, hardhat, brownie, Web3.js, ethers.js, MetaMask, Infura, Alchemy, Ethernal, Chai, Ganache, surya, openzeppelin-solidity, Truffle
Familar IDEs:	JupyterLab/ Jupyter Notebook, PyCharm, Remix, RStudio, VS Code, Google Colab
Familar OS:	Ubuntu, Windows

SELECTED PUBLICATIONS

International Journals

★ DAOs
★ DAOMTs
★ ERC-721
★ Multi-Signatures Contract
★ Non-Transferable Tokens (NTTs)
★ IPFS
★ hardhat

Umer Majeed et al., "DAO-FL: Enabling Decentralized Input and Output Verification in Federated Learning with Decentralized Autonomous Organizations," TechRxiv. Preprint, Dec. 2023.
www.github.com/umermajeedkhu/DAOFLcode/tree/main/contracts
- Developed a novel framework for decentralized input and output verification in federated learning using DAOs and ERC-721 tokens.
- Designed and implemented DAO Membership Tokens (DAOMTs) as a means for governance in systems utilizing DAOs using ERC-721. DAOMTs are mintable, burnable, soul-bound, and singleton per address.
- Employed a multi-signature-contract empowered by an ERC-721-based Orchestration-DAO to enable decentralized output verification in the federated learning process.

ERC-20
ERC-721
hardhat
Ethereum
Surya
IPFS

Umer Majeed et al., "FL-Incentivizer: FL-NFT and FL-Tokens for Federated Learning Model Trading and Training," IEEE Access, Jan 2023 www.github.com/umermajeedkhu/FL-Incentivizer/tree/master/
- Incentivized learners to submit local models to the federated learning server by implementing a reward system using ERC-20 tokens for participants.
- Developed a mechanism to commercialize the federated learning global model by tokenizing it as ERC-721 based dynamic NFT.

★ Structured Transparency
★ Homomorphic Encryption
Federated Learning
★ Input Privacy
★ Output Privacy
★ Output Verification
★ Flow Governance

Umer Majeed et al., "ST-BFL: A Structured Transparency empowered cross-silo Federated Learning on the Blockchain framework," IEEE Access, Nov. 2021.
- Enhanced data privacy in federated learning through structured transparency components like input and output privacy, using encryption and secure aggregation techniques to safeguard sensitive data.
- Introduced output verification mechanisms to ensure the integrity and accuracy of machine learning models in a collaborative setting, aiding data scientists in validating model performance and reliability.
- By implementing smart contracts and decentralized layers for flow governance, the framework establishes accountability and transparency in managing federated learning processes, aligning with data science principles of effective data management and compliance.

★ Consensus Algorithm
★ Blockchain technology
★ Blockchain Platforms
★ Smart contracts
★ Smart city

Umer Majeed et al., "Blockchain for IoT-based Smart Cities: Recent Advances, Requirements, and Future," Journal of Network and Computer Application, Vol. 181, pp.1-22, May 2021.
- Conducted a comprehensive literature review to formulate blockchain genesis, inception, and further enhancements in blockchain technology in chronological order in terms of constituent technologies, consensus algorithms, and blockchain platforms.
- Identified and discussed applications, case studies, and data-centric requirements and challenges for blockchain-enabled smart cities.

International Conferences

★ Transfer Learning
★ Traffic Classification
★ Federated Learning
★ TensorFlow Federated
★ Secure Aggregation
★ Time-related Statistical Features
★ Data Normalization

Umer Majeed et al., "Cross-Silo Model-Based Secure Federated Transfer Learning for Flow-Based Traffic Classification," 35th International Conference on Information Networking (ICOIN), Jan. 2021.
- Developed Cross-Silo Federated Transfer Learning - Implemented a novel scheme for traffic classification using deep learning models trained on feature-based datasets from multiple organizations.
- Enhanced Accuracy and Efficiency - Improved traffic classification accuracy and training-time efficiency by transferring knowledge between federated models in a cross-silo setting.
- Ensured Privacy with Secure Aggregation - Implemented a secure aggregation protocol to protect data privacy in federated learning, addressing confidentiality concerns in collaborative machine learning.

★ Deep Learning
★ Traffic Classification
★ Horizontal Federated Learning
★ TensorFlow Federated
★ Feature Engineering
★ Time-related Statistical Features

Umer Majeed et al., "Cross-Silo Horizontal Federated Learning for Flow-based Time-related-Features Oriented Traffic Classification," 21st Asia-Pacific Network Operations and Management Symposium (APNOMS), Sep. 2020.   https://doi.org/10.23919/APNOMS50412.2020.9236971
- Utilized flow-based time-related features for traffic classification, showcasing the application of statistical analysis in data-driven decision-making.
- Implemented deep learning and machine learning techniques for traffic classification, demonstrating the use of advanced algorithms in data analysis.
- Leveraged federated learning to build models without centralizing sensitive data, highlighting privacy-preserving methods in data science applications.

★ Federated Learning
★ Blockchain
★ MEC
★ channel-specific ledgers
★ model state trie
★ Security enhancement

Umer Majeed et al., "FLchain: Federated Learning via MEC-enabled Blockchain Network," Proceedings of the 20th Asia-Pacific Network Operations and Management Symposium (APNOMS), pp. 1-4, Sep. 2019.
- Proposed a novel architecture called FLchain that integrates blockchain technology with Federated Learning to enhance security and privacy of user data.
- Introduced the concept of channel-specific ledgers for storing local model parameters and the global model state trie for efficient updates based on local model aggregations.
- Demonstrated that FLchain is more robust than traditional FL schemes by ensuring provenance and maintaining auditable aspects of the learning model in an immutable manner.

Korean Journals

★ Mining Pool Selection
★ Probabilistic Approach
★ Blockchain Networks
★ Reward Mechanism
★ Collaboration
★ Propagation Delay
★ Winning Probability

Umer Majeed et al., "Mining Pool Selection Strategy in Blockchain Networks: A Probabilistic Approach," KIISE Transactions on Computing Practices, Vol. 26, No. 6, pp. 280-285, June 2020.
- Explores a probabilistic approach for selecting mining pools to enhance the stability of income for miners in blockchain networks.
- Analyzes the impact of mining strategies on propagation delay and winning probability, providing insights into optimal mining pool selection.
- Discusses the importance of collaboration among miners and the influence of reward mechanisms on mining pool dynamics.

CERTIFICATIONS AND MOOCS

IBM Data Science Professional Certificate - Coursera
https://www.coursera.org/professional-certificates/ibm-data-science

★ GAI Tools
★ Data Augmentation
★ Data Preparation
★ Querying DBs
★ Feature Engineering
★ Ethics in GAI

Generative AI: Elevate Your Data Science Career - Audit Completed with Labs - July, 2024
https://www.coursera.org/learn/generative-ai-elevate-your-data-science-career
- Leveraging generative AI tools like GPT 3.5, ChatCSV, and tomat.ai for data preparation and querying.
- Engaging in hands-on labs for data generation, augmentation, and model refinement.
- Exploring real-world scenarios where generative AI enhances data science workflows.
- Understanding ethical considerations around the use of generative AI in data science.

★ Supervised Learning
★ Unsupervised Learning
★ Regression
★ Classification
★ KNN
★ Decision Trees
★ SVM
★ Clustering

Machine Learning with Python - Audit Completed with Labs - June, 2024
https://www.coursera.org/learn/machine-learning-with-python
- Understanding the fundamentals of Machine Learning and its applications across various industries.
- Implementing regression models and evaluating their performance using metrics.
- Practicing classification techniques, including KNN, logistic regression, and support vector machines.
- Gaining hands-on experience with clustering methods like k-means and hierarchical clustering.
- Completing labs and a final project to showcase machine learning skills using Python libraries such as SciPy and scikit-learn.

★ Data Visualization
★ Matplotlib & Seaborn
★ Dash & Plotly
★ Geospatial Data
★ Hands-on Projects
★ Storytelling

Data Visualization with Python - Audit Completed with Labs - June, 2024
https://www.coursera.org/learn/python-for-data-visualization
- Implementing data visualization techniques with libraries such as Matplotlib, Seaborn, and Plotly.
- Creating a variety of plots including histograms, bar charts, scatter plots, and choropleth maps.
- Building interactive dashboards to visualize data insights effectively.
- Engaging in hands-on labs and final projects to apply visualization skills with real-world datasets.

Data Analysis with Python - Audit Completed with Labs - May, 2024

★ Data Cleaning
★ Data Preparation
★ EDA
★ Data Visualization
★ ML Models
★ Data Pipelines
★ Hands-on Projects

https://www.coursera.org/learn/data-analysis-with-python
- Developing Python code for data cleaning, including handling missing values and data normalization.
- Performing exploratory data analysis and creating meaningful visualizations with real-world datasets.
- Building and evaluating regression models using machine learning techniques in Python.
- Learning to create data pipelines for efficient data workflow management.

Databases and SQL for Data Science with Python - Audit Completed with Labs - May, 2024

★ SQL Basics
★ DDL & DML
★ Advanced SQL
★ Python Integration
★ Real-world Datasets
★ Relational Database
★ Cloud Databases

https://www.coursera.org/learn/sql-data-science
- Constructing SQL queries from basic to advanced levels, including views, transactions, and joins.
- Accessing and analyzing databases using Python and Jupyter Notebooks.
- Working on hands-on projects with real-world datasets.
- Learning the importance and usage of cloud databases.

Data Science Methodology - Audit Completed with Labs - April, 2024

★ CRISP-DM
★ Foundational Methodology
★ Data Preparation
★ Model Evaluation
★ Feedback Loop
★ Problem Solving

https://www.coursera.org/learn/data-science-methodology
- Understanding and applying the CRISP-DM methodology to structure data science projects effectively.
- Learning how to prepare data, build models, and evaluate their performance in real-world scenarios.
- Gaining insights into the iterative nature of data science through feedback loops and continuous improvement.

Python Project for Data Science -Audit Completed with Labs - April, 2024

★ yfinance
★ web scraping
★ stock analysis
★ Watson Studio
★ BeautifulSoup
★ share price
★ stock revenue
★ Plotly

https://www.coursera.org/learn/python-project-for-data-science
- Extracting and analyzing financial data from popular stocks using Python libraries and web scraping techniques.
- Building interactive dashboards to visualize patterns and trends in stock performance using Plotly.
- Demonstrating proficiency in Python fundamentals, data structures, and data manipulation for real-world data analysis projects.

Python for Data Science, AI & Development - Audit Completed with Labs - April, 2024

★ Python/Jupyter
★ Expressions
★Variables/Types
★Loops/Functions
★ Objects/Classes
★ Files/Numpy
★ APIs
★ Web Scarping

https://www.coursera.org/learn/python-for-applied-data-science-ai
- Understand Python basics, including data types, expressions, and variables.
- Explore data structures like lists, dictionaries, and sets for efficient data storage
- Gain expertise in Pandas, Numpy, and web scraping with Beautiful Soup for data analysis.
- Learn about REST APIs, HTTP requests, and data collection methods for real-world applications.

Tools for Data Science - Audit Completed with Labs - April, 2024

★ data management
★ data integration and transformation
★ code management
★ execution environments
★ model building
★ model deployment
★ model monitoring
★ cloud-based tools

https://www.coursera.org/learn/open-source-tools-for-data-science
- Different types and categories of tools that data scientists use for data management, data integration and transformation, data visualization, model building, deployment, monitoring, and assessment.
- Covers essential tools for asset and code management, execution and development environments.
- Overview of popular open-source, commercial, and cloud-based tools, such as Oracle Database, Microsoft SQL Server, IBM Db2, Jupyter Notebooks, JupyterLab, RStudio IDE, Git, GitHub, Watson Studio, NoSQL, MongoDB, Hadoop File System, and more.

What is Data Science? - Audit Completed with Labs - April, 2024

★ Fundamentals
★ Data literacy
★Career Paths
★ETL
★Data Science Domains
★ Big Data
★ Data Pipelines

https://www.coursera.org/learn/what-is-datascience
- Definition and importance of data science in today's data-driven world.
- Explore various career paths in data science, and get advice from experienced data science professionals who share their insights and experiences in the field.
- Gain insights into machine learning and deep learning.
- Foundational understanding of big data processing, data mining, data literacy, and data science applications. Usage of cloud computing, ETL, data marts, data lakes, and data pipelines to handle and integrate big data.

Deep Learning Specialization - Coursera

https://www.coursera.org/specializations/deep-learning

Neural Networks and Deep Learning - Completed - July, 2021

★ Neural Nets
★ Back-propagation
★ Hyperparams
★ Regularization
★ Optimization

https://www.coursera.org/account/accomplishments/verify/9KPTZJVMA78D
- Gain a deep understanding of neural networks and deep learning fundamentals, including the mathematics behind forward and backward propagation.
- Implement neural networks from scratch and understand their architecture, including the use of activation functions and cost functions.
- Learn to optimize neural networks through hyperparameter tuning and applying regularization techniques to prevent overfitting.

★ Hyperparams
★ Optimization
★ Regularization
★ TensorFlow
★ Dropout

Improving Deep Neural Networks - Completed - August, 2021
  https://www.coursera.org/account/accomplishments/verify/PVM5NYPM4XG8
- Explore advanced techniques for improving deep neural networks, including hyperparameter tuning and optimization algorithms like Adam and RMSprop.
- Implement regularization methods such as dropout and batch normalization to enhance model generalization.
- Utilize TensorFlow to build, train, and evaluate complex neural network models efficiently.

★ ML Strategy
★ Error Analysis
★ Transfer Learning
★ End-to-End Learning
★ Human-level Performance

Structuring Machine Learning Projects - Completed - Oct. 2021
  https://www.coursera.org/account/accomplishments/verify/CDFMXLAVWQF3
- Diagnose errors in a machine learning system and prioritize strategies for reducing errors.
- Understand complex ML settings, such as mismatched training/test sets, and apply human-level performance benchmarks.
- Implement end-to-end learning, transfer learning, and multi-task learning techniques to enhance model performance.
- Develop intuition for splitting data and evaluating the most worthwhile options to pursue in an ML project.

★ CNN Basics
★ Advanced Architectures
★ Object Detection
★ Special Applications

Convolutional Neural Networks - Completed - Oct. 2021
  https://www.coursera.org/account/accomplishments/verify/2A3H64JQF6GM
- Understand and implement foundational CNN layers and architectures for image classification.
- Explore advanced CNN models including ResNets and MobileNet, and apply transfer learning techniques.
- Apply object detection algorithms like YOLO and U-Net for detecting and segmenting objects in images.
- Investigate special applications such as face recognition and neural style transfer, and create models for these tasks.

★ RNNs
★ GRU
★ LSTM
★ Attention Models
★ NLP
★ Transformers

Sequence Models - In progress
  https://www.coursera.org/learn/nlp-sequence-models
- Gain proficiency in implementing and training Recurrent Neural Networks (RNNs) and their variants like GRUs and LSTMs.
- Apply RNNs to tasks such as character-level language modeling and sequence generation.
- Utilize natural language processing techniques and word embeddings for various NLP applications.
- Implement and experiment with attention mechanisms and transformers for tasks like machine translation and named entity recognition.

Blockchain Specialization- University of Buffalo- Coursera - Completed -Feb, 2020
https://www.coursera.org/account/accomplishments/specialization/R7EPJZBHSMGH

★ Fundamentals
★ Cryptography
★ Consensus Protocols
★ Types of Blockchains

Blockchain Basics - Completed - Dec. 2018
  https://www.coursera.org/account/accomplishments/certificate/V7Q3QPWZ9WYB
- Understanding the core principles of blockchain technology, including its structure, operations, and key characteristics. Differentiating between public, private, and consortium blockchains.
- Gaining insights into cryptographic techniques essential for securing blockchain transactions, such as hashing and digital signatures.
- Learning about various consensus mechanisms like Proof of Work (PoW) and Proof of Stake (PoS), and their roles in achieving agreement within the blockchain network.

★ Solidity Programming
★ Smart Contract Design
★ Remix IDE
★ Deployment Techniques
★ Contract Testing
★ Best Practices

Smart Contracts - Completed - July, 2019
  https://www.coursera.org/account/accomplishments/certificate/KKL6CMMVXWNJ
- Learning the Solidity programming language for writing and managing smart contracts.
- Designing and coding smart contracts to automate complex transactions and enforce rules on the Ethereum blockchain.
- Utilizing the Remix IDE for developing, testing, and deploying smart contracts efficiently.
- Understanding best practices for deploying and interacting with smart contracts on the blockchain.

★ Truffle Suite
★ Dapp Architecture
★ Testing and Deployment
★ Front-End Development
★ MetaMask Integration

Decentralized Applications (Dapps) - Completed - Jan. 2020
  https://www.coursera.org/account/accomplishments/certificate/NW8Y7JPSUTYB
- Gaining proficiency with Truffle Suite for developing, testing, and deploying decentralized applications.
- Understanding the architecture of Dapps, including the interaction between smart contracts, the blockchain, and the front-end interface.
- Integrating smart contracts with web interfaces using tools like MetaMask.
- Mastering testing and deployment techniques for Dapps on both local and public Ethereum networks.

★ Hyperledger Fabric
★ Microsoft Azure Blockchain
★ Augur Dapp
★ Grid+ Dapp
★ IPFS
★ Hashgraph

Blockchain Platforms - Completed - Feb. 2020
https://www.coursera.org/account/accomplishments/certificate/NSTHYRJFE82X

- Exploring permissioned blockchain platforms such as Hyperledger Fabric and Microsoft Azure's Blockchain as a Service.
- Analyzing real-world decentralized applications like Augur and Grid+ to understand their use cases and implementations.
- Learning about alternative decentralized solutions like IPFS for data storage and Hashgraph for distributed consensus.

Private & Secure AI/ Data Science Courses - OpenMined

https://courses.openmined.org/courses

★ Information Flows
★ Privacy Techniques
★ Privacy-Transparency Trade-off
★ Input Privacy
★ Societal Implications of Privacy

Our Privacy Opportunity - Completed - Mar. 2021
https://courses.openmined.org/courses/our-privacy-opportunity

- Exploring the fundamental concepts of structured transparency in the context of AI and data sharing.
- Learning about input privacy techniques, including federated learning and homomorphic encryption, as components of structured transparency.
- Discussing the challenges and opportunities related to the privacy-transparency trade-off in various applications.
- Understanding the relevance of appropriate information flow and its implications for transparency in modern society.

★ Federated Learning Techniques
★ Homomorphic Encryption
★ Secure Multi-Party Computation
★ Differential Privacy Applications

Foundations of Private Computation - Ongoing - Progress 80%
https://courses.openmined.org/courses/foundations-of-private-computation

- Implementing federated learning using tools like PySyft and Duet to analyze and model data while preserving user privacy.
- Utilizing homomorphic encryption to perform computations over encrypted data without exposing the original data.
- Learning secure multi-party computation techniques to facilitate collaborative data analysis among multiple parties without revealing individual data.
- Applying differential privacy methods to ensure sensitive information is protected while still gaining insights from data analysis.

★ Remote Data Execution Tools
★ Differential Privacy
★ Multi-Party Computation
★ Domain Node

Introduction to Remote Data Science - Completed - Feb. 2022
https://courses.openmined.org/courses/introduction-to-remote-data-science

- Utilizing remote execution tools to analyze data without direct access, enhancing privacy and compliance.
- Applying differential privacy methods to securely analyze sensitive datasets, ensuring data anonymity.
- Implementing secure multi-party computation frameworks for safe collaborative analysis across organizations.
- Mastering the process of deploying a Domain Node to host data securely, facilitating distributed data science projects.

Other MOOCS

★ React/ Next.js
★ ICO/DAOs
★ NFTs / DEX
★ Layer 2
★ ENS/ IPFS
★ Ceramic
★ Chainlink VRFs
★ Smart contract testing
★ Smart contract Security
★ Graph's Indexer
★ Merkle Trees

Ethereum Developer Degree - learnweb3.io - in progress
opensea.io/umermajeed

- Freshman Graduate - LearnWeb3 DAO Graduates
  Fundamentals of blockchain, ethereum, solidity, web3, dApps and crypto technology.
- Sophomore Graduate - LearnWeb3 DAO Graduates
  Deep understanding of gas, mining, PoW, PoS, EVM, Solidity, React and Next.js. build full dApps with custom contracts, NFTs, DAOs, ICOs, and DEX.
- Junior - in progress - *Explore Layer 2 solutions, ENS integration, local smart contract testing, IPFS, NFTs, Ceramic, Chainlink VRF, and The Graph's Indexer.*
- Senior - in progress - *Master Web3 essentials: Merkle Trees, Flash Loans, Smart Contract Security, MEV, Gas Optimization, Metatransactions, and more.*

★ Web3
★ DAOs
★ Governance tokens
★ Smart contracts
★ Digital assets
★ Blockchain design principles

Web3 and Blockchain Fundamentals- INSEAD- Coursera - Completed -Feb, 2024
https://www.coursera.org/learn/web3-blockchain-fundamentals

- Understanding the foundational technology of Web3 and its implications for decentralized systems.
- Exploring the various types of digital assets and their roles in blockchain ecosystems.
- Identifying the design principles and challenges associated with implementing blockchain technology in real-world scenarios.

★ Python Syntax
★ Python automation
★ Code reuse
★ Refactoring
★ error handling
★ Problem solving framework

Crash Course on Python- Google - Coursera - Completed - March, 2020
www.coursera.org/account/accomplishments/verify/FEZNE2LWZJC2

- Comprehensive introduction to programming and Python basics for automation tasks in IT roles.
- Covers syntax, data types, loops, and advanced string manipulation with hands-on exercises.
- Equips learners with skills to write Python scripts and solve complex programming challenges effectively.

★ AI Terminology
★ AI Strategy
★ Machine Learning Workflow
★ Data Science Workflow
★ Ethical AI
★ AI and Society

AI For Everyone - Andrew Ng - Coursera - Completed - Dec. 2019
https://www.coursera.org/account/accomplishments/verify/E9QHLH2A529C
· A non-technical introduction to AI, covering key terminology, ethical considerations, and practical AI strategy.
· Insights into building AI/data science workflows, recognizing AI opportunities, and working with AI teams effectively.
· Discusses the societal and ethical implications of AI, including bias, adversarial attacks, and impacts on jobs and developing economies.

★ Business Networks
★ Hyperledger Composer
★ Hyperledger Fabric
★ Access Control
★ Network consensus

IBM Blockchain Foundation for Developers- IBM- Coursera - Completed -Aug, 2018
www.coursera.org/account/accomplishments/verify/6GA4B4BZQFK7
· An overview of blockchain and distributed ledger systems in a business environment. It covers important concepts, key use cases, and the transfer of assets in a blockchain network.
· The structure and components of Hyperledger Composer and Fabric, and how to model, build, and interact with a blockchain application.
· Roles and responsibilities of those involved in building and maintaining a blockchain business network.

★ Python Basics
★ Data Types
★ Data visualization
★ pundas
★ numpy
★ seaborn
★ matplotlib
★ EDA
★ SQL
★ Statistical Thinking
★ Statistical Analysis
★ Relational Database
★ SQL JOINs
★ SQL Aggregation
★ Git/ Github
★ Command line
★ CLI piping

Datacamp
https://www.datacamp.com/portfolio/umermajeed
· Introduction to Python - Completed - 2017
· Intermediate Python - Completed - 2017
· Data Types for Data Science in Python - Completed - 2017
· Python Data Science Toolbox (Part 1) - Completed - 2017
· Python Data Science Toolbox (Part 2) - Completed - 2017
· Statistical Thinking in Python (Part 1) - Completed - 2017
· Statistical Thinking in Python (Part 2) - Completed - 2017
· Introduction to Version Control with Git - Completed - 2018
· Intermediate SQL Queries - Completed - 2017
· Introduction to Shell - Completed - 2018
· Introduction to Data Visualization in Python - Completed - 2017
· Intermediate Data Visualization with Seaborn - Completed - 2018

EDUCATION

2017 - Present	**Master & Ph.D. (Combined) in Computer Science & Engineering** Department of Computer Science & Engineering, Kyung Hee University, Yongin, South Korea	**CGPA 4.11/4.3**
2011 - 2015	**BS Electrical (Telecommunication) Engineering** National University of Sciences & Technology (NUST), Islamabad, Pakistan	**CGPA 3.83/4.00**

EXPERIENCE

2015 – 2016   **PHP developer**   **Artologics, Islamabad, Pakistan**
· Developed robust back-end applications using Core PHP and CodeIgniter framework.
· Implemented jQuery and JavaScript to facilitate smooth communication between the user interface and server-side components via AJAX requests, enhancing the interactivity of web application.
· Employed SQL queries to interface with MySQL databases, ensuring data integrity and reliability while developing robust solutions for efficient data management.
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PHP  /  SQL  /  CodeIgniter  /  jQuery  /  AJAX  /  JavaScript  /  APIs
```

BADGES
Founder's Badge - LearnWeb3 Badges
www.opensea.io/assets/matic/0x60f028C82f9f3bF71eOC13fE9e8E7f916b345C00/262556
The founder's badge was airdropped to students who were early adopters of LearnWeb3.

LANGUAGES

English - Proficient (written and verbal), **Urdu** - Native, **Korean** -Beginner (TOPIK Level 2)