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ABOUT ME

I am an interdisciplinary researcher at the intersection of Neuro-AI, neuroscience, and the philosophy of mind, with an academic foundation in Petroleum and Natural Gas Engineering from Mehran University. My work integrates applied mathematics, programming, and cognitive science to explore fundamental questions about consciousness, intelligent systems, and human experience.

EDUCATION

Mehran University of Engineering and Tech, Jamshoro, Sindh **September 2019-December 2023**
Bachelor of Petroleum and Natural Gas Engineering (B.E) **CGPA: 2.97/4**

EXPERIENCE

Vulcan Completion Products UK **11 August 2024-Present**
Remote AI Engineer Karachi

- Develop and implement AI and machine learning models to solve business problems.
- Collaborate remotely with cross-functional teams to align on project goals.
- Analyze data, train models, and optimize performance for real-world use.
- Communicate effectively using virtual tools to ensure smooth coordination.
- Continuously learn and apply new AI techniques to improve solutions.
- Document processes and results for transparency and team knowledge.

NEUROIMAGING TRAINEE INTERNSHIP **01 February 2024 – 30 July 2024**
Under the supervision of **Dr. Shahnawaz**, Senior Consultant Neuropsychiatrist MK Hospital Hyd

- Gained hands-on experience in:
  - MRI and CT scan interpretation
  - Clinical data analysis
  - Imaging techniques for outpatient diagnosis
- Observed and assisted in real-time neurological diagnostics of admitted patients.
- Acquired foundational skills in neuroimaging, data-driven healthcare, and neuroscience applications.
- Recognized as a punctual, hardworking, and dedicated intern by supervising doctor.
- Internship served as a launch pad for advanced research in Neuro-AI and personalized treatment modeling.

AI Virtual Internship (JP Morgan Chase Co) **July 2023-August 2023**
Online

- Conducted Exploratory Data Analysis to identify trends and patterns.
- Developed data models to support predictive and descriptive tasks.
- Built and interpreted machine learning models for real-world problems.
- Deployed machine learning models into production environments.
- Performed quality assurance to ensure model accuracy and reliability.

BBSHRRDB ROBOTICS AND AUTOMATIC SYSTEM INTERNSHIP **October 2022-April 2023**
Mehran UET Research Department

- Gained skills in safety protocols, troubleshooting, and system diagnostics.
- Developed hands-on experience with Arduino and embedded systems.
- Acquired foundational knowledge in machine learning, neural networks, and robotics.

OIL AND GAS DEVELOPMENT COMPANY LIMITED INTERNSHIP (OGDCL) **May 2022-June 2022**
Qadirpur Gas-Field

- Gained hands-on experience in gas processing, well drilling, maintenance, and optimization.
- Contributed to reports based on data analysis to improve operational decision-making.
- Observed and learned about well drilling operations and basic maintenance procedures.
- Interacted with engineers and technicians, gaining insights into operational tasks and teamwork.
- Adapted to working in a field environment, managing challenges such as heat and long working hours.

PROJECTS

Intelligent Robotic Arm for Industrial Automation

- Built and programmed a 5-DOF robotic arm using Arduino and C++.
- Integrated sensors and machine learning for object detection and classification.
- Built a real-time control interface in python with safety and fault diagnostics.

AI-Driven Gas Pipeline Leak Detection System

- Developed ML models for pipeline leak detection using sensor data.
- Trained Random Forest and SVM classifiers on historical pressure/flow data.
- Proposed SCADA integration for real-time alerts and predictive maintenance.

Improving Drilling Efficiency by Minimizing Mud Loss in Various Rock Formations Using AI

- Applied AI to optimize drilling fluid performance and simulate mud loss across various lithologies.
- Evaluated cost-efficiency and environmental impact of AI-driven fluid strategies.
- Provided insights to minimize formation damage and improve drilling efficiency.

RESEARCH

Machine Learning for Reservoir Characterization

- Compared performance of Random Forest, SVM, and Neural Network approaches
- Achieved 12% improvement in prediction accuracy over conventional methods
- Developed a novel hybrid model combining physical models with ML predictions

Utilization of Drilling Fluid to reduce mud loss circulation in the wellbore

- Evaluated drilling fluids to identify effective solutions for reducing mud loss in wellbores.
- Tested loss circulation materials to assess their sealing performance under down-hole conditions.
- Optimized fluid formulations to enhance wellbore stability and minimize economic loss.

CURRENT RESEARCH FOCUS

Revolutionizing Neurological Care: AI-Driven Treatment Optimization and Outcome Prediction.

- Leveraging machine learning and neuroimaging data to build personalized diagnostic and treatment models for neurological disorders.
- Focusing on low-resource clinical environments to ensure equitable access to AI-powered healthcare solutions.
- Aiming to enhance early detection, treatment accuracy, and clinical decision-making using AI in neurology.
- Integrating interdisciplinary insights from neuroscience, AI, and healthcare systems to improve real-world patient outcomes.

COURSES AND CERTIFICATION

Annual Technical Conference and Oil Show (Student Contest Paper) **November 07- 08, 2023**
Computational Neuroscience (University of Washington-Coursera) **December 2023- January 2024**
Philosophy and the Sciences: Introduction to the Philosophy of Cognitive Sciences **November 2023-22 December 2023**
The University of Edinburgh (Coursera)
MUET Model United Nations **March 10-12, 2023**
Indus Hospital Regional Blood Center, Volunteer Member **February 10, 2022**
SPE Petro-Fiesta (Runner up Petro-Quiz Competition) **March 15-17, 2022**

TECHNICAL SKILLS

Languages:	Python, C++, MATLAB, HTML, CSS
Frameworks:	Beautiful Soup**,** Tensor Flow, Pandas, NumPy, Scikit-learn, PyTorch, OpenCV, Matplotlib, Seaborn
Tools & Platforms:	Proper,Reveal, Eclipse,MBAL, Juypter Notebooks, VS Code , PyCharm, Git, GitHub,
Concepts:	Deep Learning, NLP , ML, SCADA,OOPs

ACHIEVEMENTS

- Selected for a competitive government internship in Robotics and Automation Systems.
- Developed a predictive maintenance model and NLP system at Vulcan Completion Products, reducing downtime by 25% and improving knowledge retrieval by 40%.
- Runner up in Petro-Quiz Competition 2022 **Muet Szab Khairpur Campus**

RECOMENDATIONS

Name: Mike Fraser | Regional Manager Middle East
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Department : Product Management Department
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Name: Dr.Busra Naz | Associate Professor
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