Sepehr SeifiZarei

Data Scientist — Data Engineer — AI Engineer

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Summary — Data Scientist and Data Engineer with expertise in machine learning, cloud-based data solutions, and scalable ETL pipelines. Skilled in predictive modeling, statistical analysis, and automation workflows. Experienced in Azure Databricks, Power BI, DAX, and SQL-based analytics. Additionally, proficient in 3D design, 3D printing, and rapid prototyping for developing technical solutions. Passionate about building efficient, data-driven systems and integrating AI-powered insights into real-world applications.

Skills

Programming Languages: Python, SQL, MATLAB, HTML, CSS

Cloud and Data Platforms: AWS, Azure, Databricks, Apache Airflow, Apache Spark

Data Science and Analytics: Predictive Modeling, Statistical Analysis, Machine Learning, Feature Engineering

Data Engineering: ETL Pipelines, Workflow Automation, Data Modeling, Data Integration

Data Tools and Visualization: Power BI, DAX, GitHub

3D Design and Prototyping: 3D Printing, CAD Modeling, Product Prototyping

Experience

RM4Health Project, University of Turku, Turku, Finland **06/2023 – Present**
Data Scientist

- Developed scalable data pipelines and ETL workflows using Python, Apache Airflow, and SQL, improving processing efficiency by 30%.
- Implemented AWS cloud-based solutions, optimizing data storage, processing, and model deployment.
- Automated data validation workflows, reducing manual intervention by 60%.
- Built predictive models for analyzing time-series data, improving forecasting accuracy.

Moore4Medical Project, University of Turku, Turku, Finland **06/2022 – 05/2023**
Data Scientist

- Developed machine learning algorithms for anomaly detection and time-series forecasting using PyTorch and TensorFlow.
- Conducted feature extraction and preprocessing for large-scale datasets, reducing error rates by 10%.
- Published research in IEEE JBHI and Computing in Cardiology, contributing to AI-driven medical advancements.
- Designed 3D models and CAD prototypes for research and product development.

Medical Instrumentation Course, University of Turku, Turku, Finland **02/2024 – 05/2024**
Teaching Assistant

- Guided students in simulating ECG and PPG circuits using LT Spice.
- Supported hands-on lab sessions, assisting with circuit implementation and data interpretation.

Education

University of Turku, Turku, Finland **08/2023 – Present**
Doctor of Science in Health Technology

- **Thesis:** Unobtrusive Monitoring for Cardiovascular Disease using ML.
- **Core Focus:** Scalable data pipelines, multimodal clinical data analysis, and AI-driven healthcare solutions.

Iran University of Science and Technology, Tehran, Iran **09/2019 – 02/2023**
Master of Science in Biomedical Engineering

- **GPA:** 4/4 — **Thesis:** Ultrasound Image Despeckling with Deep Learning.
- **Core Focus:** Medical image processing, deep learning, and computer vision techniques with applications in diagnostics.
- **Relevant Coursework:** Deep Learning, Medical Imaging Processing

Bu-Ali Sina University, Hamadan, Iran **09/2014 – 09/2018**
Bachelor of Science in Electrical Engineering

- **GPA:** 3.5/4 — **Thesis:** Application of FibroScan®.
- **Core Focus:** Signal processing, embedded systems, and microcontroller programming, Robotics.
- **Relevant Coursework:** Control Systems, Electronic Circuits, Digital Systems, Embedded Systems, Microprocessors.

Publications

- S. Seifizarei et al, **Continuous Radar-based Heart Rate Monitoring using Autocorrelation-based Algorithm in Intensive Care Unit**, IEEE Journal of Biomedical and Health Informatics, 2025
- S. Seifizarei et al, **Evaluating Piezoelectric Ballistocardiography for Post-Surgical Heart Rate Monitoring**, Computing in Cardiology (CinC), 2024

Languages

English: Fluent — **Finnish:** Fluent (YKI testi: 3/4)

References

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Additional references available upon request