

# Curriculum vitae

M.Sc. Soheil Nezakat

## Personal information

Date of birth: 22. February 1990

Nationality: Iranian

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## Professional Career

06.2023 - ongoing

**Research Associate**, Clausthal-Zellerfeld  
Technical University of Clausthal

- *AI & Machine Learning Development:*  
Built and improved deep learning and small language models (TensorFlow, Keras, Python) for image recognition, NLP, and forecasting. Tuned models with GPU optimization, batch normalization, and dropout for faster and more efficient training. Created UCloudNet for accurate cloud classification.
- *Image Processing & Computer Vision:*  
Developed pipelines (OpenCV, TensorFlow) for fisheye correction, cloud detection, autofocus, and plant-disease spotting, improving clarity in real-world images. Automated agriculture tasks using Raspberry Pi, anomaly detection, and machine vision.
- *Deployment, Data Engineering & System Integration:*  
Deployed AI apps in Docker on Linux/cloud, automated workflows with shell scripts, and managed real-time services. Built Python data channels, optimized Spark SQL for faster analysis, modernized APIs, created Grafana dashboards, and set up systems from hardware to deployment.
- *Software Quality, Collaboration & Leadership:*  
Used the V-model and unit tests (PyTest, Unittest) to cut software errors. Reviewed code, debugged, and improved performance. Managed GitHub repos with CI/CD and mentored team members on best practices.

03.2021 – 09-2022

**Head of Software & Data Analytics**, Dubai  
Iranian hospital

- *Data Integration & System Optimization:*  
Integrated the DHA HASANA system with Kafka and NiFi, cutting processing time by 40% and improving data flow across departments. Migrated and upgraded the hospital IS database from Oracle to Postgres, achieving 50% higher speed, stronger reliability, and smoother operations. Designed and implemented a redundant SQL architecture with Oracle and MySQL, ensuring 99.9% uptime, high data availability, and minimal risk of data loss or downtime.

- **Software Quality & Automation:**  
Created Python test frameworks with 95% coverage, reducing issues by 30%. Improved system stability and sped up release cycles.
- **Business Intelligence & Data Visualization:**  
Built Qlik Sense and Oracle BI dashboards with key KPIs, improving decisions by 30%. Used Qlik Sense, Power BI, and Oracle Data Visualization to find anomalies and clusters, boosting insights by 20%.
- **AI & Knowledge-Based Systems in Healthcare:**  
Developed Expert Systems for medical diagnosis, improving efficiency by 30%. Used Fuzzy Logic for better patient data classification and hospital resource use. Applied Knowledge-Based Systems to detect insurance fraud, cutting fraud by 20%.

02.2020 – 02-2021

**IT manager**, Dubai  
Iranian hospital

- **System Integration & Compliance:**  
Spearheaded integration of the DHA Hasana system with API-based workflows, cutting data errors by 30% and ensuring compliance. Integrated HIS with financial apps via custom middleware, improving financial accuracy by 35% and streamlining audits.
- **Agile Development & Real-Time Analytics:**  
Worked with cross-functional teams in Agile setups, leading sprint planning, retrospectives, and delivery of real-time analytics features.
- **Healthcare Systems & Revenue Management:**  
Implemented RCM software, boosting revenue cycle efficiency and cutting billing errors by 20%. Helped achieve EMRAM stage 6 at HIMSS by deploying advanced health information systems that raised service quality and efficiency.
- **Digital Transformation:**  
Directed the hospital's move to paperless workflows with digitization and cloud storage, reducing paper usage by 90% and modernizing operations.

12.20204 - 01.2020

**Software engineer**, Dubai  
Iranian hospital

- **Patient Engagement & Healthcare Systems:**  
Developed an intelligent SMS-marketing solution that increased patient engagement by 25%. Deployed an HIS system with automation (Selenium, APIs), reducing task time and generating \$20M in extra revenue in the first year. Reduced outpatient waiting times by 80% by integrating EID smart cards with HIS (HL7 standards). Connected medical equipment with HIS using HL7, improving data accuracy by 30% and streamlining clinical workflows.
- **Operational Efficiency & Workflow Optimization:**  
Optimized hospital operations across medical, HR, doctors' workbench, nursing, pharmacy, CRM, and inventory, boosting efficiency by 25%. Standardized HR workflows for personnel tracking and attendance, improving HR operations by 20%. Designed workflows with SharePoint, InfoPath, and SQL, raising data management efficiency by 25%.
- **Software Quality & Secure Identification:**  
Applied the V-model for strong software architecture and testing in embedded systems. Implemented a first-time registration system using vein pattern recognition, improving security and identification efficiency by 40%.

- **Data Engineering & Project Delivery:**  
Developed complex SQL queries for ETL workflows, optimizing joins and indexes for 40% faster performance. Delivered cross-functional projects with Agile methods, applying work breakdown structures and risk mitigation to ensure on-time, on-budget delivery.

## Education

10.2022 – 09-2025	<b>Technical University of Clausthal</b> , Clausthal-Zellerfeld M.Sc. Computer Science
03.2013 - 09.2015	<b>Islamic Azad University</b> , Dubai M.Sc. Software Engineering
09.2008 – 02.2013	<b>Islamic Azad University</b> , Lahijan B.Sc. Computer Science

## Technical Skills

Programing languages	Python, Java, R, MATLAB, C#, Delphi, Bash/Shell Scripting, PySerial
AI & ML	TensorFlow, Keras, HuggingFace, OpenCV, Spark SQL, Databricks, Delta Lake, Hadoop
Databases	SQL Server, Oracle, PostgreSQL, MySQL, Neo4j, MongoDB
Enterprise Systems	Oracle Fusion Cloud (SCM, Order Mgmt), HL7 Integration, ETL, Kafka, NiFi
Frameworks	Spring Boot, React, Node.js, Selenium
DevOps & Automation	Docker, Ansible, Git, CI/CD, Raspberry Pi, Process Automation, Real-Time Processing
Cloud & Tools	OCI, AWS, Azure, REST APIs, JIRA, Confluence, SolarWinds SAM, PRTG Monitoring
BI & Visualization	Qlik Sense, Power BI, Oracle BI, Grafana, Tableau
OS & Networking	Linux (Oracle, Ubuntu, CentOS), Windows Server, TCP/IP, HTTP, RDMA, Infiniband, SSH, VPN, Firewalls

## Languages

Persian:	C2
English:	C1
German:	B1