Keivan Ardam

Piacenza, Italy | keivan.ardam@gmail.com | 3318012213 | portfolio | linkedin

Summary

Skilled Engineer with expertise in both mechanical systems and software development, working at the intersection of these disciplines in the Smart Buildings field. With almost 4 years of experience, I specialize in architecting and deploying secure, scalable data pipelines, and have proficiency in programming, data wrangling, predictive analytics, and developing intuitive visualizations and dashboards. Eager to further enhance my expertise in AI and software development, driving innovation and optimizing system performance in a data-driven environment.

Skills

Programming: Python, HTML, CSS, JavaScript   **DataBase:** SQL, Postgres, MySQL

Framework: FastAPI, Flask, SQLAlchemy, Vue.js, Tailwind, WebSocket

Data Processing and Visualization: Pandas, Numpy, Matplotlib, Plotly, ChartJS, D3.js, GCP Data Studio

Cloud and Infrastructure: AWS (S3, EC2, ECS), GCP, Docker   **ML:** Sklear, Keras

Concept: RESTful API, Microservices, OOP, CI/CD, Agile, Scrum

Education

Politecnico di Milano, MSc. in Mechanical Engineering, Area of Energy Systems   Sept 2017 – June 2020
- GPA: 103/110
- **Thesis title:** Application of Machine Learning in Frictional Pressure Drop Estimation of Two-Phase Flow: A Dimensionless Approach; Multiphase Flow Lab and DataOptima Lab

Amirkabir University of Technology, BSc. in Mechanical Engineering   Sept 2011 - Oct 2015
- GPA: 17.30/20
- **Thesis title:** Design, Fabrication, and Analysis of Different Arrays of Impinging Jets for Heat Transfer Coefficients Investigation; Heat Transfer Laboratory

Experience

AI Service Reliability Engineer, BrainBox AI – Montreal, CA   Mar 2022 – Present
- Leveraging AI for automated M&V tools, aligning with IPMVP for real-time performance analysis
- Developing FDD services, enabling early fault detection and automated schedule updates via APIs
- Building web-based dashboards and post-deployment monitoring solutions, providing real-time monitoring, fault detection, automated alerts, performance tools, and automated client-facing reporting

Research Fellow, DataOptima Lab – Milan, IT   Mar 2021 – Mar 2022
- Energy auditing, implementing ML models for predictive analytics, and optimizing control strategies aimed at minimizing energy consumption
- Building real-time dashboards (demo) and alerting systems for HVAC monitoring and energy visualization
- Designing IoT architecture and automation pipelines, improving data acquisition and HVAC monitoring resilience, speed, and robustness

Thesis Co-Supervision & Teaching Assistant, Politecnico di Milano – Milan, IT   Sept 2020 – Mar 2022
- Supervised M.Sc. thesis projects on ML-based occupancy estimation, temperature forecasting, and predictive modeling in smart buildings
- Assist M.Sc. students with lab sessions on building behavior modeling using Python

Pressure Vessel Safety Inspector, ASTA Engineering Company – Tehran, IR   Sept 2016 – Sept 2017
- conducting inspections, testing, and assessments according to safety standards and regulations
- Standardization and analysis of heat transfer coefficients in an innovative copper-based boiler

Publications

Machine Learning based Pressure Drop Estimation of Evaporating R134a Flow in Micro-fin Tubes: Investigation of the Optimal Dimensionless Feature Set   2021

K. Ardam, B. Najafi, A. Lucchini, F. Rinaldi, L. Colombo

Heat Transfer Estimation in Flow Boiling of R134a within Microfin Tubes: Development of Explainable Machine Learning-Based Pipelines   2024

S. Milani, K. Ardam, F. Javan, B. Najafi, A. Lucchini, I. Carraretto, L. Colombo

Personal Projects

Classified Ads Web App (In Progress)   Darkoob

- Developing a web application similar to Sheypoor, allowing users to create accounts and post products
- Implemented categorized product listings with advanced filtering based on category-specific features
- Integrated a real-time chat section for seamless communication between users
- Deployed the application on Render for live testing and feedback
- Technologies Used: FastAPI, JWT, Vue.js, Tailwind, WebSocket

Mass Building Analysis Tool   SummitView

- Developed a tool for analyzing mass building data, focusing on status reports
- Implemented interactive data visualizations for real-time monitoring and analysis
- Technologies Used: Flask, Vue.js, D3.js, Chart.js, Tailwind.