Alaa Bashir

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👤 STATEMENT

As a dedicated software development professional with a solid foundation in Computational Mechanics, I have consistently demonstrated an ability to tackle complex problems and deliver innovative solutions. My journey from achieving academic excellence in Mechanical Engineering to excelling in Software Development at 42 Abu Dhabi reflects my commitment to lifelong learning and adaptability.

🎓 EDUCATION

Diploma of Software Development
11/2022 – Present | Abu Dhabi, UAE

42 Abu Dhabi

Final Project: Developed a Multiplayer Pong Game with Adaptive AI, Implementing Game Mechanics, AI Logic, and Full Project Workflow from Design to Testing.

Skills Gained:

- Command Line Interactions
- Advanced C/C++ Programming
- Elementary Algorithms
- System Programming
- Graphics Programming
- Network & System Administration
- Collaborative, Project-based Development and Peer Mentoring

Master of Computational Mechanics
10/2018 – 10/2021 | Munich, Germany

Technical University of Munich (TUM)

Passed with distinction **(GPA: 3.6/4.0)**

Master's Thesis Topic: Investigation of the Turbulent Horseshoe Vortex based on LES Data of Flow around a Scoured Bridge Pier.

Relevant Coursework:

- Turbulent Flow Modelling
- Advanced Fluid Mechanics
- Computational Fluid Dynamics
- Finite Element Method
- Computational Material Modelling

Bachelor's Degree in Mechanical Engineering
09/2013 – 12/2018 | Abu Dhabi, UAE

United Arab Emirates University (UAEU)

Passed with distinction **(GPA: 3.98/4.0)**

Graduation's Project Topic: Designing and Building a Cooling System with Enhanced Heat Transfer Features Based on Novel Ideas Utilizing Superior Heat Transfer Media.

Relevant Coursework:

- Machine Design
- Thermodynamics and Fluid Mechanics
- Advanced Mathematics Courses
- Aircraft Structure, Dynamics,and Stability
- Computer Aided Designing and Manufacturing

📚 COURSES

Intro to AI and Gen AI for Nomu Al Ghurair Techup   07/2025 – 08/2025
  Skills Gained:

- Fundamentals of AI
- Machine Learning Basics
- Gen AI principles (LLMs, GANs, Diffusion Models)
- Practical AI Applications in Education, Business, etc.

Udacity Nano-Degree Program in AI Programming   12/2022 – 02/2023
  Final Project: Building an Image Classification Application.
  Skills Gained:

- Python Programming for AI
- Neural Networks
- Data Analysis & Visualization
- Linear Algebra and Calculus Essentials
- Deep Learning with PyTorch

💼 PROFESSIONAL EXPERIENCE

Maintenance Engineer Intern   09/2015 – 02/2016 | Abu Dhabi, UAE
Schlumberger

- Introduced to Health, Safety and Environment (HSE) importance, injury prevention and basic H2S Awareness.
- Familiarized with tools used in logging while drilling (LWD), measuring while drilling (MWD), surface system, rotary steerable system (RSS) and drilling.
- Gained experience in maintaining these tools according to the service level.

🧩 OTHER EXPERIENCE

American Society of Mechanical Engineering (ASME)   02/2015 – 05/2015
Club Coordinator
UAE University

- Developed and arranged the proposed club's activities program.
- Communicated verbally and in writing with events' speakers and participants.
- Produced detailed reports for the activities performed with an evaluation.

Research Assistant   02/2015 – 05/2015
UAE University

- Participated in research of "Room Temperature Shapes of Four- Layer Un- Symmetric Cross-Ply Laminates."
- Learnt good modeling and manufacturing skills of laminated composite panel.

Hostel Supervisor Assistant   09/2014 – 12/2014
UAE University

- Regulated the entry and exit of the students in the hostel.
- Organized entertaining and educational events.
- Addressed and resolved student concerns, maintaining a positive environment.

Organizer in World Chess Championships   12/2013

UAE University

- Welcomed all guests and directed them to their rooms.
- Greeted guests and assisted them in person or via telephone, ensuring a smooth and enjoyable event experience.
- Ensured quality service by addressing guests concerns and resolving problems.

📰 PUBLICATIONS

Al Omari, S., Bashir, A., Al Hammadi, M., Al Hamalawi, F., Elnajjar, E., Ghazal, A. (2017) "Experimental Assessment of a Direct-contact Heat Exchanger Bubbling Hot Water in a Cooler Liquid Gallium Bath", International Communications in Heat and Mass Transfer.

🧩 SOFT SKILLS

- Analytical Thinking
- Problem Solving
- Project Management
- Teamwork and Collaboration
- Communication
- Adaptability
- Time Management
- Hardworking

🌐 LANGUAGES

Arabic — Native

English — IELTS score: 7.5

German — Level A2

📑 ACTIVITIES

- Participated in the 5th UAE Undergraduate Research Competition.   05/2017
- Conducted workshops such as "CNC Workshop" and "CATIA Workshop".   02/2016
- Participated in UAEU-Mubadala Aerospace Student Research Conference.   05/2015
- Organized and represented the College of Engineering during "School Open Day".   10/2013

🧠 HARD SKILLS

- **Programming Languages:** C/C++, Python.
- **AI & Data:** Neural Networks, Deep Learning (PyTorch), Data Analysis, and Visualization
- **Software and Tools:** Microsoft Office, CATIA, EES, ANSYS FLUENT, MATLAB, Simulink, ParaView.
- **Graphics:** Image management, interacting with window management systems, user events and inputs.
- **Network & System Administration:** Computer networking (IP addresses, subnets, routing).
- **Engineering:** Thermodynamics, Fluid Mechanics, Computational Fluid Dynamics, Finite Element Method.

🎯 INTERESTS

Reading — Expanding knowledge on various subjects

Swimming — Improving physical fitness and stress management

Cooking — Experimenting with new recipes, enhancing creativity and precision