

Anwr Mohammed

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Summary

Dedicated and highly accomplished Mechanical Engineering professional with a strong research background, teaching experience, and mechanical design and analysis expertise. I am currently seeking a lecturer position where I can leverage my academic and industrial knowledge to inspire and educate future engineers. Committed to fostering student learning, conducting innovative research, and contributing to the academic community. Proficient in critical thinking, decision-making, and teamwork, with a strong emphasis on time management and planning.

PERSONAL COMPETENCIES: Critical Thinking, Decision-Making, Self-Motivated, Teamwork, Time Management, Planning and Coordination

Education

PHD IN MECHANICAL ENGINEERING | MAR 2023 | UNIVERSITY TECHNOLOGY PETRONAS

Dissertation: "A Novel Balanced Double Crank Rocker Mechanism for Vibration Suppression"

MSC IN MECHANICAL POWER ENGINEERING | NOV 2016 | CAIRO UNIVERSITY

Dissertation: "An Artificial Neural Network Model for Gas Turbines Performance Prediction"

BSC IN MECHANICAL ENGINEERING | JUN 2006 | SANA'A UNIVERSITY

Final Year Project: "Fluid Power Systems: Approach, Analysis and Control"

Teaching and Academic Experience

GRADUATE ASSISTANT | UNIVERSITY TECHNOLOGY PETRONAS | MAY 2019-MAR 2023

- Assisted in teaching and supervised undergraduate students in sizes from 9-180 students. Mechanical engineering topics included Mechanics of Machines, Electrical Power and Machines, Fluid Dynamics, and Thermodynamics.
- Demonstrated lab courses to facilitate hands-on learning and practical skills.
- Contributed to the development of virtual labs for online teaching purposes (MATLAB-Simulink for electrical power machine lab).
- Assisted 2-groups of students with final-year projects,
- Checked assignments, proctored tests, graded exams, and provided academic support according to university standards.
- Aided faculty members with research projects, grant applications and administrative tasks.

PHD. RESEARCHER | UNIVERSITY TECHNOLOGY PETRONAS | MAY 2019-MAR 2023

- Designed and fabricated a novel mechanism for the application of the CR engine.
- Developed and optimized a balancing methodology for vibration suppression.
- Collaborated with other researchers in the project to enhance and analyse the developed engine.

MSC. RESEARCHER | CAIRO UNIVERSITY | SEP 2012-NOV 2016

- Developed an artificial neural network model for gas turbine performance prediction.
- Investigated and analysed turbine degradation for better maintainability and reliability.

Professional Experience

FREELANCE MECHANICAL ENGINEERING CONSULTANT | APR 2023-NOW

- Provide tailored solutions and expert advice on mechanical engineering projects.

- Conduct in-depth research and produce high-quality technical reports and papers.
- Offer tutoring services to undergraduate students, covering various mechanical engineering subjects.
- Manage projects efficiently, ensuring timely delivery and client satisfaction.

SR. MECHANICAL ENGINEER| PETROMASILA E&P YEMEN| JAN 2016-DEC 2018

- Led a team of engineers in efficiently managing projects, encompassing planning, coordination, budgeting, and contractor supervision.
- Designed and reviewed CAD drawings from contractors and draftsmen to ensure accuracy and alignment with project requirements.
- Enhanced equipment reliability by developing and implementing effective strategies, minimizing downtime, and improving operational efficiency.
- Provided guidance for the team in resolving complex mechanical challenges, ensuring uninterrupted operations.
- Implemented predictive maintenance programs using condition monitoring techniques, proactively detecting potential issues early to reduce unexpected breakdowns.
- Ensured compliance with safety regulations and industry standards in all design projects, prioritizing safety for personnel and equipment.

MECHANICAL ENGINEER| TOTAL E&P YEMEN| NOV 2007-DEC 2015

- Conducted regular maintenance tasks for mechanical equipment to maintain peak performance and reliability.
- Swiftly diagnosed and repaired equipment breakdowns to minimize operational disruptions.
- Prioritized safety by strictly adhering to safety protocols and promptly identifying potential hazards during maintenance work.
- Contributed valuable insights to root cause analysis investigations, facilitating effective solutions for equipment failures.
- Maintained meticulous records and generated comprehensive reports detailing all maintenance activities, aiding in informed decision-making.
- Participated in research and development efforts to enhance existing equipment and contribute to the development of advanced technologies, including design modifications and improvements.

Skills & Abilities

MECHANICAL DESIGN AND ANALYSIS: Cad (AutoCAD Inventor, Catia v5), Finite Element Analysis (FEA), MATLAB, MSC Adams, 3D Printing and Rapid Prototyping.

APPLICATIONS SOFTWARE: MS Office, SAP

TEACHING AND MENTORING: Curriculum Development, Classroom Instruction, Student Assessment

RESEARCH: Experimental Design, Data Analysis, Publication Writing

LANGUAGES: Arabic (Native), English (Fluent), French (Basics)

PROFESSIONAL MEMBERSHIP:

- Member of the Institution of Mechanical Engineers, Chartered Engineer CEng., UK (MIMechE)
- Member of the American Society of Mechanical Engineering, USA (ASME)
- Member of the Institution of Engineering and Technology, UK (IET)
- Member of Malaysia Board of Technologists, Professional Technologist (P. Tech., MBOT)

PROFESSIONAL TRAINING AND CERTIFICATES:

- Laboratory Management Safety Passport, Laboratory Management Department-University Technology Petronas, 2022.
- Active Learning for Teaching Assistance, Centre of Graduate Studies-University Technology Petronas, 2019.
- Laser Shaft Alignment, TUV NORD Middle East, 2014.
- Mechanical Seal Inspection, Refurbishing, and Installation, TUV NORD Middle East, 2013.

- Environment Management Systems (ISO 14001), DNV Business Assurance, 2013.
- Gas Engine Technology, GE-WAUKESHA, 2013.
- ROTALIGN PRO Advance Laser Shaft Alignment for Industrial Applications, PRUFTECHNIK, 2011.
- Certified ISO Vibration Analyst CAT I, EMERSON, 2010.
- Orientation of CATERPILLAR Gensets, TEHAMA-CAT, 2010.
- Vibration Analysis, EMERSON, 2009.
- Mechanical Engineering ON-JOB-TRAINING, Almaz-Ipedex Oil & Gas Services, 2008

Conferences and presentations

- **A. M. Albaghdadi**, M. Bin Baharom, and S. A. bin Sulaiman, “Parameter design optimization of the crank-rocker engine using the FMINCON function in MATLAB,” in Virtual Conference on Engineering & Technology (VicET 2020), Published in IOP Conf. Ser. Mater. Sci. Eng., vol. 1088, no. 1, p. 012072, 2021, doi: 10.1088/1757-899x/1088/1/012072.
- **A. M. Albaghdadi**, M. B. Baharom, and S. A. Sulaiman, “A comparative study and validation of kinematic analysis of a crank rocker engine prototype using MATLAB and ADAMS,” in International Conference on Artificial Intelligence for Smart Community, Published in Lecture Notes in Electrical Engineering, Springer, Singapore, vol 758, pp 125–133. https://doi.org/10.1007/978-981-16-2183-3_11.

Publications

- **A. M. Albaghdadi**, M. B. Baharom, S. A. Sulaiman, and S. A. Sulaiman, “Balancing and Simulation of a Double Crank-Rocker Engine Model for Optimum Reduction of Shaking Forces and Shaking Moments,” Math. Model. Eng. Probl., vol. 8, no. 2, pp. 237–245, 2021, doi: 10.18280/mmep.080210. (Scopus, SC=2.8).
- **A. M. Albaghdadi**, M. B. Baharom, and S. A. Sulaiman, “Tri-planar balancing optimization of a double crank- rocker mechanism for shaking forces and shaking moments reduction,” Proc. Est. Acad. Sci., vol. 70, no. 3, pp. 286–296, 2021. (ISI& Scopus, IF=1.045).
- **A. M. Albaghdadi**, M. Baharom, and S. Sulaiman, “Hybrid methodology using balancing optimization and vibration analysis to suppress vibrations in a double crank-rocker engine,” Eksploat. i Niezawodn., vol. 24, no. 1, pp. 53–61, 2022, doi: 10.17531/EIN.2022.1.7. (ISI, IF=2.742).
- **A. M. Albaghdadi**, M. Baharom, and S. Sulaiman, “Experimental Vibrational Study to Investigate the Dynamic Behaviour of A Double Crank Rocker Mechanism”. (Under review).
- **A. M. Albaghdadi**, M. Baharom, and S. Sulaiman, “Balancing of mechanical linkages — theory, technique, and application: A review study”, (Under review).
- **A. M. Albaghdadi**, “Performance Prediction of A Power Generation Gas Turbine Using An Optimized Artificial Neural Network Model”, (Under review).

REFERENCES

AP Ir. Dr Masri Bin Baharom

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