Radwan Al-Shawesh

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City of Sana'a, Yemen

Summary

[🌐] = Click to verify documents

A passionate computer science enthusiast with a strong foundation in mathematics, computer science, software engineering, and artificial intelligence. Driven by curiosity and a strong passion for research, I am constantly exploring new ways to innovate and push the boundaries of what technology can achieve. If you're looking for someone who gets excited about breakthroughs in computer science, embracing new challenges, and turning coffee into code, then we're on the same page!

Personal Information

Name	Redhwan Abdullah Thabit Al-Shawesh	**Marital Status**	Married
Nationality	Yemeni	**Place of Birth**	Sana'a, Yemen
Gender	Male	**Languages**	Arabic, English, Chinese
Date of Birth	12 October 1992	**Profession**	Lecturer

Education

- **East China Normal University [🌐]** *Sep. 2018 - July 2021*
  ***M.S.E** Software Engineering* Shanghai, China
  - **Specialization:** Artificial Intelligence, Deep learning, Medical Big Data, and Computer Vision.
  - **MSc Thesis:** Histopathological Colorectal Cancer Image Classification based on Convolutional Neural Network
  - **Supervisor:** Prof. Chen YiXiang
  - **GPA:** 4.21/5.00
  - **Awards:** Shanghai Goverment Scholarship Type A
  - **Relevant Coursework:** Computer Architecture, Algorithm Design and Complexity Analysis, Fundamentals of Artificial Intelligence, Data Visualization, Theoretical Foundation of Software, Software/Hardware Co-Design, Machine learning, Large-Scale Nonlinear Programming, Advanced Design Methodologies for Smart Systems, Seminar on Embedded Systems.
- **South East University [🌐]** *Sep. 2016 - July 2018*
  ***MTCSOL** Master of Teaching Chinese to Speakers of Other Languages* Nanjing, China
  - **MSc Thesis:** An Experimental Analysis of Pronunciation Errors in Chinese Initial Consonants by Yemeni Students
  - **Supervisor:** Prof. Zhang TianLai
  - **GPA:** 4.50/5.00
  - **Awards:** CSC Scholarship Type A
- **Nanjing University of Aeronautics & Astronautics [🌐]** *Sep. 2012 - July 2016*
  ***B.Eng** Aeronautical Engineering* Nanjing, China
  - **Specialization:** Aircraft Control and Information Engineering
  - **GPA:** 3.10/5.00
  - **Awards:** CSC Scholarship Type A, Top 100 Outstanding Young Students
  - **Relevant Coursework:** Linear Algebra, Algebra & Trigonometry, Introduction to Computer Science, Computer Programming, Calculus 1,2 & 3, Electrical Engineering & Electronic Technique 1 & 2, Physics 1 & 2, Information Retrieval & Utilization, Numerical Analysis, Discreet Mathmatics, Mathematical Equations, Software Engineering.
- **Tongji University [🌐]** *Sep. 2011 - July 2012*
  Preparatory Certificate in Science and Engineering Shanghai, China
  - **Supervisor:** Prof. Li Ting
  - **GPA:** 4.8/5.0
  - **Awards:** CSC Scholarship Type A, Outstanding Academic Achievement Award, Excellent Attendance Award, and Active Participation in Various Activities Award.
  - **Relevant Coursework:** Computer Science, Mathmatics, Physics, Scientific Chinese, Chemistry.

Research Interests

- Machine Learning and Deep Learning
- Natural Language Processing (NLP)
- AI Applications in Healthcare
- Computer Architecture and Software System Design
- Computer Vision
- Reinforcement Learning (RL)
- Autonomous Systems
- Algorithms and Computer Science Theory

Research Experience

- **Enhancing Histopathological CRC Image Classification by using CNN** *Sep. 2020 - March 2021*
  Tools: [Python, TensorFlow, Keras, ResNet-50, Transfer Learning, Fine-Tuning, Macenko Method] [🌐]
  - **Institution:** East China Normal University.
  - **Objective:** Investigated convolutional neural network (CNN) techniques for improving colorectal cancer (CRC) histopathological image classification.
  - **Methods:** Adapted the ResNet-50 architecture using transfer learning and fine-tuning techniques. Leveraged pretraining on the ImageNet dataset, froze parameters in early layers, and retrained the dense and final layers to optimize feature extraction from CRC histopathological images in the NCT dataset.
  - **Outcomes:** Achieved a **97.7%** validation accuracy, demonstrating the model's potential for clinical applications in cancer diagnostics.

Teaching Experience

• Courses I have taught:

Teaching experience includes **1 year** at the University of Science & Technology **(UST)**.

Course Title	Program	Semesters Taught	Mod of Teaching
Computer Fundamentals	BSc	1	Lectures & Lab
Introduction to Computer Science	BSc	1	Lectures & Lab
Software Engineering	BSc	1	Lecturers & Lab

• Courses I am qualified and prepared to teach:

Course Title
Single Variable Calculus
Computer Programming (C/C++, Java, Python)
Data Structures
Discrete Mathematics
Introduction to Information Science & Technology
Object-Oriented Programming
Precalculus

Projects

- **AI Pathologist: [Image Classification Python Applicaion for Lab Doctors]** *March 2021 - April 2021*
  Tools: [Python, Qt for Python] [GitHub]
  - Developed a software program to utilize my own CNN network.
  - Designed the software to operate efficiently on both CPU and GPU, without requiring high-end hardware or third-party software dependencies.
  - Optimized the user interface for simplicity, allowing pathologists and lab doctors to upload, classify, and analyze images efficiently.
- **Computer Science & Technology Self Study Platform** *May 2021 - Present*
  Tools: [Python, Sphinx, GitHub Pages, reStructuredText, Git, GitHub Actions(CI/CD)] [GitHub]
  - Developed a comprehensive self-study guide for Computer Science based on curricula from renowned universities like Tsinghua, MIT, and Harvard.
  - Utilized Sphinx and reStructuredText to generate clean, readable documentation, deployed to GitHub Pages using Continuous Deployment with GitHub Actions.
  - Created a structured learning roadmap, including suggested books, online resources, courses, and exams, designed to guide learners through the essential topics in computer science.
  - Integrated practical resources like the REKCARC-TSC-UHT open-source project on GitHub to enrich the guide with real-world examples and tools.
- **Data Structure Visualization using Graphviz** *Sep. 2022 - Present*
  Tools: [C, Graphviz] [GitHub]
  - Developed a tool for visualizing data structures like Binary Search Trees (BST) and Threaded Binary Trees using the Graphviz library.
  - Provided interactive visualization for tree structures and operations, helping users understand internal relationships.
  - Included future support for AVL Trees and Red-Black Trees for extended functionality.
- **The Oden Project** *April 2020 - May 2021*
  Tools: [HTML, CSS, JavaScript, React, Node.js] [GitHub]
  - Gained hands-on experience in front-end and back-end development, utilizing tools such as React and Node.js.

- Developed practical solutions for various common applications, applying modern development practices.
- Completed multiple projects as part of the Oden project process, including: **Social media site clone, Tic-Tac-Toe Game, Drawing App, Calculator App, Responsive Login Page, Admin Dashboard and Library App**

Patents and Publications

Online

[1] R. Al.Shawesh and Y. X. Chen. "Enhancing histopathological colorectal cancer image classification by using convolutional neural network. "[Online]. Available: https://doi.org/10.1101/2021.03.17.21253390.

Thesis

[2] R. Al.Shawesh, "Histopathological colorectal cancer image classification based on convolutional neural network and tools development," Master's thesis, East China Normal University (ECNU), Shanghai, China, 2021. Accessed: Dec. 30, 2024. [Online]. Available: https://xueshu.baidu.com/usercenter/paper/show?paperid=1v1y0e90f55404w0js3p00w0p5214691.

[3] R. Al.Shawesh, "Errors in the acquisition of chinese initials by yemeni beginner learners and experimental analysis," Master's thesis, Southeast University, 2018. Accessed: Dec. 30, 2024. [Online]. Available: https://xueshu.baidu.com/usercenter/paper/show?paperid=1y0m0mp0gr0w04n0ck2a0p908y258600&site=xueshu_se.

Honors and Awards

- **Shanghai Goverment Scholarship Type A** *Sep. 2018*
  East China Normal University [🌐]
  - Awarded this scholarship to pursue a Master's degree in Software Engineering.
  - Successfully completed a three year master degree at ECNU.
- **China Goverment Scholarship Type A** *Sep. 2011*
  Embassy of China in Yemen [🌐]
  - Awarded this scholarship to pursue a bachelor degree.
  - Successfully completed a one-year preparatory course at Tongji University.
  - Successfully completed a four-year bachelor's degree at NUAA.
- **China Goverment Scholarship Type A** *Sep. 2016*
  Embassy of China in Yemen [🌐]
  - Awarded this scholarship to pursue a Master's degree in Chinese Language.
  - Successfully completed a three-year master degree at SEU.
- **Top 100 Students Award** *Sep. 2015*
  Nanjing University of Aeronautical & Astronautical Engineering [🌐]
  - This award was given for excellence in academic performance, recognizing me as one of the top 100 students in the university during the 2015-2016 academic year.
- **Certificate of Honor** *June 2012*
  Tongji University [🌐]
  - Won the Outstanding Academic Achievement Award, Excellent Attendance Award, and Active Participation in Various Activities Award.

Employment History

Full-Time Work

- **Foshan Safe Freight CO.,LTD | Safe CareMed [🌐]** *July 2021 - June 2023*
  Software Engineer Foshan, China
  - Customized and developed full ERPNext modules using Python and Frappe Bench, optimizing internal workflows and automating key business processes, boosting workflow efficiency by 50%.
  - Maintained Linux servers with 99.9% uptime and strengthened security.
  - Built responsive UIs with JavaScript, jQuery, HTML, and Bootstrap 5, improving usability by 25%.
  - Developed and managed multiple WordPress sites, creating custom themes and plugins to enhance functionality and improve SEO ranking.
  - Collaborated with the marketing team to enhance visibility, refine strategies, and actively contributed to social media marketing efforts.
  - Designed visuals and video edits using Photoshop, Illustrator, and Adobe Premiere for websites, applications, and social media campaigns, enhancing brand visibility and user engagement.

Part-Time Work

- **University of Science & Technology [🌐]** *June 2024 - Present*
  Lecturer Sana'a, Yemen
  - Developed and delivered engaging lectures in *Software Engineering, Data Structures & Algorithms, Introduction to computer science, and Computer Orginization* enhancing student understanding and performance.

Volunteer Experience

- **Volunteer Teaching** *June 2015 - July 2015*
  Gansu Province - Baiying city - Hepan Junior High School [🌐]
  - Taught science in English to junior high school students during a 15-day volunteer teaching and cultural exchange program.
  - Promoted cross-cultural understanding and improved students' English communication skills through interactive science lessons.
  - Recognized as an NUAA Advanced Individual of Summer Social Practice for contributions to education and community development.

Skills

- **Programming Languages:** C/C++, Python, Java, SQL
- **Data Science & Machine Learning:** Pandas, NumPy, Scikit-learn, TensorFlow, Keras, Matplotlib, Seaborn
- **Operating Systems:** Linux(Debian, Ubuntu, Fedora), Windows
- **Database Systems:** MySQL, PostgreSQL, MongoDB, SQLite
- **DevOps & Version Control:** Git, GitHub, CI/CD
- **Web Technologies:** HTML, CSS, Bootstrap, JavaScript, React, Node.js
- **Mathematical & Statistical Tools:** MATLAB
- **Software Engineering:** UML, Object-Oriented Design (OOD), Software Architecture, Design Patterns, Software Development Lifecycle (SDLC)
- **Teaching Skills:** Curriculum Design, Classroom Management, Assessment & Evaluation, Student Mentoring, Lecture Preparation
- **Research Skills:** Experimental Design, Data Analysis, Scientific Writing, Literature Review, Research Methodologies, Grant Writing
- **Other Tools & Technologies:** LaTeX, Jupyter Notebooks, Microsoft Office, Photoshop, Illustrator, Premiere

Additional Information

Languages:

- **Arabic:** Native speaker.
- **English:** Fluent in reading, writing, and listening, with average speaking skills. Completed a bachelor's program taught in English and published academic papers in English. My primary, middle, and high school education was primarily in English.
- **Chinese:** Passed HSK Level 6, the highest language proficiency certification in Chinese.

References

1. **Professor Chen YiXiang (陈仪香) [🌐]**
   Professor, College of Software Engineering
   East China Normal University
   Email: yxchen@sei.ecnu.edu.cn
   Phone: +86-186-2181-5769
   Relationship: Master's Degree Academic Advisor
2. **Prof. (Dr) Wang Wei Ying [🌐]**
   Professor, Department of Engineering
   Nanjing University of Aeronautical & Astronautical Engineering
   Email: meewywang@nuaa.edu.cn
   Phone: +86-138-5151-4220
   Relationship: Head Supervisor during a Design Project
3. **Prof. (Dr) Qian Yan (钱焱) [🌐]**
   Professor, Department of Business Administration
   Nanjing University of Aeronautical & Astronautical Engineering
   Phone: +86-25-8489-6220
   Relationship: Instructor
4. **Dr. Li Ting (李挺) [🌐]**
   Head Teacher, Department of International Cultural Exchange
   Tongji University
   Email: liting0811@126.com
   Phone: +86-138-1838-5961
   Relationship: Head teacher