Mehdi Mahmud

Full-Stack Web Developer

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ABOUT ME /OBJECTIVES

Full-stack developer with a passion for coding and problem solving situated in the Birmingham area. As a skilled programmer, I can adapt to all stages of advanced programming. I am confident in my technical skills which range from coding and user interface to testing and debugging procedures. I hold a PhD in Applied Mathematics from the University of Birmingham and since 2000 I have gained experience in several different domains which include research, teaching, IT, and professional video editing. More recently, I completed an intense Full-Stack Bootcamp at the University of Birmingham, which I completed in November 2021 having obtained an overall grade of A+.

EDUCATION

Bootcamp Certificate | *University of Birmingham*
MAY 2021-DEC 2021   **Full Stack web Development**

PhD | *University of Birmingham*
OCT 2015-JUL 2020   **Applied Mathematics**
"MICROBUBBLE DYNAMICS NEAR RIGID BOUNDARIES"

Msc | *Salahaddin University-Erbil*
OCT 2007 – JUL 2009   **Computational Mathematics**
"APPROXIMATION METHODS ON SOLVING A SYSTEM OF LINEAR 2D FREDHOLM INTEGRAL EQUATIONS"

Bsc| *Salahaddin University-Erbil*
OCT 1998 – JUL 2002   GENERAL MATHEMATICS
*" USING PRIMITIVE POLYNOMIALS IN **BLOCK CIPHER** TO CREATE A SECURE APP USING VISUAL BASIC"*

EXPERIENCE

Research Fellow | *University of Birmingham*
SEP 2019 – JUN 2021
Research project: Wall Effects on Dynamics of Cavitation Bubbles around a Dental Ultrasonic Scaler. Here, I used ABAQUS and the finite element approach to conduct a numerical study for an ultrasonic dental scaler.

Teaching Assistant | *University of Birmingham*

2015 – 2019

Teaching assistant- part time, during my PhD study in the school of Mathematics. I helped students in (**Numerical Analysis, Computational Mathematics using Maple, Mathematical Biology, C++ programming and logic**)

Assistant Lecturer | *University of Salahaddin-Erbil*

2009 – 2014

Full-Time Assistant lecturer at Mathematics Department / College of Science to teach (**Introduction to Cryptography, Matlab, Visual Basic, Advanced Calculus, Computational mathematics, Numerical Analysis**)

Teaching Assistant | *University of Salahaddin-Erbil*

2003 – 2007

Full-Time Teaching assistant at Mathematics Department to help student with (**Computer programming using visual Basic, advanced calculus, Computational Mathematics using Matlab, Cryptography systems**)

IT and video editor

2000 – 2014

Part-Time professional video editor in Iraqia Tv, Zagros Tv and Gulan Tv based in Erbil city. Also Helping in solving IT and technical related problems. I have used Adobe Premiere pro and Avid news cutter to edit news reports as well as tv shows.

SKILLS

Web Languages / Technologies used:

✔ HTML ✔ CSS ✔ JavaScript ✔ Express.Js ✔ Node.Js ✔ Sequelize ✔ MySQL ✔ React ✔ Tailwind ✔ Bootstraps ✔ JWT ✔ Jest ✔ MongoDb ✔ ✔ Github

Other Languages

✔ Fortran ✔ Matlab ✔ Visual Basic

Other Skills

✔ Microsoft Office ✔ Adobe Premiere ✔ 3d Software (Abaqus)

PERSONAL SKILLS

I am an innovative problem solver who can work effectively in a team. As a critical thinker, I enjoy solving technical challenges and building projects from ideation to execution. I am confident in both leading a project or working as part of a team which I demonstrated during my time studying for the Bootcamp. I am also able to learn and implement new technologies. My previous work as a research fellow highlights my ability to give great attention to detail in order to effectively produce high quality work. I look forward to offering my skills as a Full Stack web developer in the future as part of a fast-paced yet quality-driven team.

PROJECTS

Find all of my projects at: https://mehdimahmud79.github.io/portfolio/

- **InQuizitive**

  Senior Developer (Developing the BackEnd and Manage the FrontEnd React Framework)

- **MovieTime**

  Senior Developer (Developing the BackEnd and fixing the Problems in the FrontEnd)

- **HolidayPlanner**

  Developer (WebPageStyling using tailwind and Api requests)

PUBLICATIONS

Wang, Q., Mahmud, M., Cui, J., Smith, W.R. and Walmsley, A.D., 2020. Numerical investigation of bubble dynamics at a corner. *Physics of Fluids*, *32*(5), p.053306.

Vyas, N., Mahmud, M., Wang, Q.X. and Walmsley, A.D., 2020. Imaging and Quantification of the Area of Fast-Moving Microbubbles Using a High-Speed Camera and Image Analysis. *JoVE (Journal of Visualized Experiments)*, (163), p.e61509.

Rostam K. Saeed and Mehdi H. Mahmud, Solution of a system of two-dimensional linearFredholm integral equation of the second kind by quadrature methods, *Australian Journal of Basic and Applied Sciences*, Vol.3, No.3 (2009), 1701-1715.

Mehdi H. Mahmud and Rostam K. Saeed , Numerical Solution of System of Two-DimensionalLinear Fredholm Integral Equations of the Second Kind by Adomian Decomposition Method, *Proceeding of the 4th International scientific conference of Salahaddin University-Erbil*,October 18-20, Vol.1 of 4 (2011), 31-34.fa

RESEARCH INTERESTS

- ❖ Bubble dynamics; Modeling Cavitation
- ❖ Boundary integral method
- ❖ Numerical Modeling; Computational Fluid Dynamics.
- ❖ Abaqus ; Modeling Cavitation around ultrasonic dental scaler.