



## Sohail Mahmood Civil Engineer

SaudiArabia|+9660530562457|smu86554@gmail.com|Transferable  
Iqma|Immediately to join

### Civil Engineer | Specialist in Tunnel Fire Hazards, Safety Systems, and Risk Assessment.

Civil engineer with specialized expertise in tunnel fire hazards, smoke ventilation, smoke simulation, and personnel evacuation. Experienced in utilizing Fire Dynamics Simulator (FDS) for smoke movement, ventilation system performance, and evacuation simulations, and proficient in Pathfinder for personnel evacuation analysis. Published researcher in leading journals, with a strong foundation in risk assessment and tunnel safety engineering

#### Experience Overview

- Tunnel Fire Hazards, FDS Modeling, Personal Evacuation Simulation, Ventilation & Smoke Control Systems: **3+ years of research and practical application.**
- Infrastructure & Construction Engineering: **5+ years of site engineering and project management.**

<b>Research Experience</b> <b>Key Project Personnel</b> <b>Central South University, china</b> <b>Duration:</b> <b>(Sept 2021-Aug 2024)</b>	<b>Horizontal research project (Suzhou Bay Tunnel project: 10km tunnel project)</b> <ul style="list-style-type: none"><li>• Analyzed lateral smoke extraction efficiency in ultra-wide rectangular tunnels.</li><li>• Developed ventilation and smoke exhaust schemes for long underwater tunnels.</li><li>• Optimized tunnel fire safety and evacuation planning.</li></ul> <b>Horizontal research Project (Xiamen Third Passage Project)</b> <ul style="list-style-type: none"><li>• Evaluated centralized smoke exhaust system effectiveness.</li><li>• Developed an evacuation plan using FDS and Pathfinder.</li><li>• Assisted in tunnel fire safety compliance and acceptance.</li></ul> <b>Horizontal research project (Nanjing West Road Crossing Passage Project)</b> <ul style="list-style-type: none"><li>• Developed a ventilation and smoke exhaust model for multi-node tunnels.</li><li>• Designed emergency response plans for fire incidents.</li><li>• Optimized tunnel operation ventilation schemes.</li></ul>
<b>Publications</b> <b>Duration:</b> <b>(Sept 2021-Aug 2024)</b>	<ul style="list-style-type: none"><li>• Zhisheng Xu., <b>Sohail Mahmood</b>, Zihan Yu. Study on the Influence of Setting Parameters of Tunnel Centralized Smoke Extraction System on Fire Smoke Flow and Temperature Decay, <i>Frontiers in Heat and Mass Transfer</i> (EI, IF=1.1)</li><li>• Yaolong Yin, Zhisheng Xu, Jiaming Zhao, <b>Sohail Mahmood</b>, et al. The effect of width and slope in uniclinal V-shaped underground space on air transport and smoke characteristics under thermal stack effect. <i>Thermal Science and Engineering Progress</i> (SCI, Q1, IF=4.8)</li></ul>

	<ul style="list-style-type: none"> <li>• Qiulin Liu, Zhisheng Xu, <b>Sohail Mahmood</b>, et al. Full-scale experimental and theoretical study of air leakage model and applicable limit length for ceiling centralized smoke exhaust system in tunnel fires, Tunn. Undergr. Sp. Tech. 2023, 140, 105268. (SCI, Q1, IF=6.9)</li> </ul>
<p><b>Site Engineer</b></p> <p>Rahmat Construction, <b>Islamabad, Pakistan</b></p> <p><b>Project:</b> JAGRAN–II Hydropower Project – Inclined Shaft, Vertical Shaft, and Surge Tank, <b>Kashmir</b></p> <p><b>Duration: 1.5 Years (Feb 2020 to Jul 2021)</b></p>	<ul style="list-style-type: none"> <li>• Ensured all civil works, including tunnel excavation and placement of lattice girders, were executed as per the plan.</li> <li>• Attended site progress meetings and conducted site inspections as necessary.</li> <li>• Prepared Daily and Monthly Progress Reports.</li> <li>• Managed client communications and ensured their requirements were met.</li> <li>• Conducted site visits during all construction phases for both initial and ongoing inspections, maintaining detailed daily logs with photographs.</li> <li>• Coordinated with team members and contractors to resolve issues and ensure smooth project execution.</li> </ul>
<p><b>Site Engineer</b></p> <p><b>Government Contractor,</b> Swat, Pakistan</p> <p><b>Project:</b> University of Swat, Pakistan – Phase II</p> <p><b>Duration: 6 Months (2019-Jul to 2020-Jan)</b></p>	<ul style="list-style-type: none"> <li>• Supervising concrete pouring and ensuring implementation according to drawings, and checking billing quantities with consultant and client.</li> <li>• Coordinating daily site activities and managing labor, subcontractors, and materials to meet project deadlines.</li> <li>• Conducting site inspections to ensure compliance with safety standards and construction specifications.</li> <li>• Preparing daily progress reports and assisting in resolving technical issues during construction.</li> </ul>
<p><b>Site Engineer</b></p> <p><b>Shaz Consultant,</b> Swat, Pakistan</p> <p><b>Project:</b> US-Funded Project – Construction of Schools</p> <p><b>Duration: 3 Years (2016-Feb to 2019-Jun)</b></p>	<ul style="list-style-type: none"> <li>• Supervised the execution of civil works, drainage systems, and RCC structure installations.</li> <li>• Ensured adherence to project drawings, specifications, and safety standards.</li> <li>• Coordinated with consultants and clients to facilitate inspections and secure approvals at critical project milestones.</li> <li>• Monitored material usage and maintained records to optimize project costs and minimize wastage.</li> </ul>
<b>Education</b>	<b>Skills</b>
<p><b>M.Sc. Civil Engineering,</b> Central South University, China (2021–2024)</p> <p><b>B.Sc. Civil Engineering,</b> BUIITEMS, Pakistan (2011– 2015)</p>	<ul style="list-style-type: none"> <li>• Fire Dynamics Simulator (FDS)</li> <li>• Pathfinder</li> <li>• Tecplot</li> <li>• Abaqus</li> <li>• AutoCAD (2D)</li> <li>• Origin Data Analysis</li> <li>• Microsoft Office</li> <li>• Reference Management (Zotero, EndNote)</li> </ul>