

MOHAMED EMAD MOHAMED, P.E

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OBJECTIVE

Seeking a bridge engineer position in a high-level professional environment to fully utilize my knowledge, gain experience and become an integral part of an active team that contribute towards the growth of the organization

SUMMARY OF QUALIFICATIONS

- ♦ Registered Professional Engineer in the State of Michigan, USA, since July 2021.
- ♦ 5 years of work and research experience in Bridge Engineering with sound knowledge of AASHTO LRFD Bridge Design Specifications.
- ♦ Thorough understanding of design and construction of concrete bridge beams prestressed with low relaxation steel strands and corrosion-free carbon fiber reinforced polymer (CFRP) strands according to MDOT bridge standards and guidelines.
- ♦ Highly expertise in ABAQUS, Mathcad, SAP2000, CSI-Bridge, RISA-3D, STAAD-Pro, AutoCAD and several other structural analysis and design software.

EDUCATION

Doctorate of Philosophy in Civil Engineering **GPA: 4.0/4.0 (60 hours)**
Lawrence Technological University, Southfield, MI, USA Jan 2019 – May 2022 (Anticipated)

Concentration: Structural (Bridge) Engineering
Dissertation: Experimental, Analytical and Field Monitoring Investigation
of Prestressed CFCC strands for Highway Bridge Girders

Master of Science in Civil Engineering **GPA: 4.0/4.0 (36 hours)**
Lawrence Technological University, Southfield, MI, USA Aug 2015 – Aug 2017

Concentration: Structural (Bridge) Engineering
Thesis: Evaluating Stress Rupture, Long-term Performance and Thermal Behavior
of Prestressed CFCC strands for Highway Bridge Girders

Bachelor of Science in Civil Engineering **GPA: 3.9/4.0 (Evaluated by WES, Inc.)**
Assiut University, Asyut, Egypt Aug 2006 – June 2011

Graduation Project: Analysis and Design of Reinforced Concrete Structures

WORK EXPERIENCE

Lawrence Technological University, MI, USA

Graduate Research Assistant Jan 2019 – Present & Aug 2015 – Aug 2017

- ♦ Plan, design and construction of reinforced and prestressed half and full-scale concrete bridge beams with low relaxation steel strands and CFRP strands including AASHTO I-beam, box beam and bulb-T beam cross-sections for laboratory testing.
- ♦ Participated in analysis, design and provided guidance on the construction of recently constructed highway bridges prestressed with CFRP strands; M-86 Bridge over Praise Creek, Centerville, MI (2016), I-75 Bridge over Sexton and Kilfoil Drain, Allen Park, MI (2017) and Burns Ave Bridge over I-94, Detroit, MI (2021).
- ♦ Conducted site visits and performed non-destructive field load test on I-75 Bridge over Sexton and Kilfoil Drain, Allen Park, MI (2017)
- ♦ Participated in projects funded by MDOT and other state DOTs to evaluate the durability of CFRP prestressing strands under extreme events including fire and freeze-thaw exposure.

- ♦ Participated in field monitoring the long-term performance of several CFRP-prestressed bridges constructed in Michigan during their service life including Bridge Street Bridge, Southfield (2001), Pembroke Avenue Bridge over M-39, Detroit (2011), M-102 over Plum Creek, Southfield (2013, 2014), M-50 over NSSR Jackson (2012), and I-75 over Sexton and Kilfoil Drain (2017).
- ♦ Participated in developing [Design Guide Specifications](#) in AASHTO LFRD format for inclusion into MDOT Bridge Design Manual provided with design criteria, [design examples in Mathcad sheets](#), and material specifications for the design of concrete beams prestressed with CFRP components.
- ♦ Developed finite element models of prestressed concrete bridges with ultra-high-performance concrete (UHPC) shear key joints under different traffic and environmental loading conditions.

University of New Mexico, NM, USA

Teaching and Research Assistant

Aug 2018 – Dec 2018

- ♦ Instructed the Civil Engineering Materials course (CE 305).
- ♦ Conducted research on the fabrication of pultruded **Glass** fiber-reinforced polymer (GFRP) reinforcing bars using carbon nanotubes.

Assiut University, Asyut, Egypt

Assistant Lecturer

Jan 2018 – Aug 2018 & Jan 2012 – Aug 2015

- ♦ Instructed the tutorials and labs of Civil Engineering courses and supervised final year student projects.
- ♦ Performed research on the analysis and design of curved and skew bridges per Egyptian Code Standards.

Engineering Studies and Consultancy Center, Asyut, Egypt

Structural Engineer

Jan 2013 – Aug 2015

- ♦ Performed analyses and designed calculations of several steel and reinforced concrete commercial and residential building projects.
- ♦ Produced construction drawings and sketches for projects.
- ♦ Undertook site visits/inspections of existing government building facilities and prepared recommendations for necessary maintenance actions.

INTERNSHIPS

Cemex Egypt, Asyut, Egypt

May 2010 – Aug 2010

- ♦ Assisted the sales team in preparing bill material, quantity surveying and cost estimate of several projects.

The Arab Contractors, Asyut, Egypt

May 2008 – Aug 2008

- ♦ Participated in site inspection and assessment of eight-floor hospital building under construction.

SELECTED GRADUATE COURSES

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| ♦ Bridge Design I (ECE 5783) | ♦ Design of Timber Structures (ECE 5703) |
| ♦ Prestress Concrete (ECE 5713) | ♦ Shallow and Deep Foundation Design (ECE 5413) |
| ♦ Advanced Concrete Design (ECE 5753) | ♦ Finite Element Analysis (ECE 6733) |
| ♦ Advanced Steel Design (ECE 5773) | ♦ Advanced Composite Materials and Structures (ECE 5763) |

HONORS AND AWARDS

- ♦ [Entrepreneurial Potential Award](#), third place, Lawrence Tech's Research Day (2021)
- ♦ [SWEET SIXTEEN](#) Award for one of the nation's top sixteen research projects, American Association State Highway Transportation Officials (AASHTO) (2020)
- ♦ Lawrence Technological University Graduate Scholarship Award (2019 & 2015)
- ♦ Assiut University Excellence Award and Honor's Degree for Bachelor of Science, Assiut University (2011)

REFERENCES

Matthew J. Chynoweth, PE

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