

MOHAMED EMAD MOHAMED, P.E

+1 (313) 566-3365 | West Bloomfield, MI, U.S.A | mmohamed@ltu.edu | Mohamed E. Mohamed

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

Chief Bridge Engineer
Director of the Bureau of Bridges and Structures
Michigan Department of Transportation
8885 Ricks Rd
Lansing, Michigan 48917
Phone: (517) 243-4302
Email: chynowethm@michigan.gov

Nabil F. Grace, PhD, PE, FESD

University Distinguished Professor,
Dean, College of Engineering,
Director, Nabil Grace Center for Innovative Materials Research
Lawrence Technological University
21000 West Ten Mile Rd
Southfield, Michigan 48075-1058
Phone: (248) 204-2556
Email: ngrace@ltu.edu
Website: www.nabilgrace.com

Mena Bebawy, PhD, PE

Associate Professor
Department of Civil and Architectural Engineering
College of Engineering, Lawrence Technological University
21000 West Ten Mile Rd
Southfield, Michigan 48075-1058
Phone: (248) 204-2564
Email: mbebawy@ltu.edu

Elin Jensen, PhD

Professor,
Chair, Department of Civil and Architectural Engineering
College of Engineering, Lawrence Technological University
21000 West Ten Mile Rd
Southfield, Michigan 48075-1058
Phone: (248) 204-2545
Email: ejensen@ltu.edu