

MALIK Z. KABBANI

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EDUCATION

Master of Science in Aerospace Engineering – Structures & Solid Mechanics

Wichita State University, Wichita KS

Graduated May 2020

GPA: 3.64/4.0

Bachelor of Science in Aerospace Engineering

Minor in Mathematics

Wichita State University, Wichita KS

Graduated May 2016

GPA: 3.8/4.0

- **Member of the National Aerospace Engineering Honors Society - Sigma Gamma Tau**
- **NIAR Excellence in Aviation Research – 1st Place Award Recipient Spring 2016**
- **Member of the American Institute of Aeronautics and Astronautics (AIAA)**

SKILLS:

- Finite Element Analysis
- FEMAP/PATRAN
- NASTRAN
- LS-DYNA/LS-Pre-Post
- CATIA V5/V6 & Enovia
- MATLAB, Maple, VBA Programming
- Altair Inspire Optimization
- AFGROW

GRADUATE LEVEL COURSEWORK & TRAINING

Fatigue and Damage Tolerance: Laminated Composites: Advanced Mechanics of Materials: Vibration Analysis: Finite Element Analysis I: Theory of Elasticity: Energy Principles in Applied Mechanics: Computational Fluid Dynamics: Injury Biomechanics: Theory of Plates and Shells: Predictive Engineering LS-DYNA Training:

WORK HISTORY:

Owner

April 2020-Present

Dynastress Engineering Solutions LLC (DES)

DES LLC provides independent consulting services for entities seeking engineering expertise. DES has aviation industry experience in structural design & optimization, stress analysis (interior and airframe), and static & dynamic loads.

DES provides the following:

- Linear & Non-Linear Implicit Static Structural Analysis
 - FEM & Hand Calculations
 - Interior Components (14 CFR § 23/25.561)
 - Airframe Components
- Dynamic Non-Linear Explicit Structural Analysis
 - Crashworthiness Analysis (14 CFR § 23/25.562)
- Static & Dynamic External Loads
- Report Generation & Automation
- Structural Design & Optimization
- Test/Model Validation
- Design Allowable Generation



Structures & Dynamics Engineer

June 2016-August 2020

Textron Aviation

- Conducted finite element analyses using a variety of FEA software to evaluate and show compliance to 14 CFR Part 23/25 regulations, across entire Textron Aviation fleet (new product development, sustaining, and refurbishments/specials).
- Performed dynamic analyses using LS-DYNA to evaluate aircraft seat components under 14 CFR Part 23/25.562 loads.
- Led and conducted aircraft seat dynamic crash lab testing.
- Analyzed interior & primary airframe structure (i.e. sandwich panel composites, metallic bracketry, fuselage frames, cargo netting, seats, etc.) using FEM/hand calculations.
- Composed technical reports including test plans/test results and substantiation by analysis.

Loads & Dynamics Engineer**March 2015-June 2016***Loads & Dynamics Group Inc. Engineering Consultants*

- Conducted flight test correlation to verify and improve existing maneuver and static loads tools.
- Produced Visual Basic (VBA) programs to support compliance of 14 CFR Part 23 loads regulations.
- Executed FORTRAN coded programs for aircraft load and maneuver time histories
- Assisted in automation of loads reports

Propulsion Systems Engineer (Intern/CO-OP)**August 2014-January 2015***Bombardier Learjet Wichita, KS*

- Coordinated and expedited certification process with propulsion system suppliers by providing technical assistance.
- Worked engineering change requests through change management process.
- Gained experience with various propulsion components dealing directly with Auxiliary Power Unit, Engine Vibration Monitoring System, Thrust Reverser Maintenance etc.

PROJECTS:

Validation of Aircraft Dynamic Seat Testing Using LS-DYNA (Spring 2020)- validated a LS-DYNA non-linear explicit dynamic seat model to a 14 CFR § 23.562(b)(2) structural seat test.

Fatigue and Damage Tolerance of Hinge Pin (Spring 2017)-Analyzed hinge pins used on a 14 CFR Part 23 aircraft step via fracture-based fatigue (Paris/Boeing-Walker equations) and stress based fatigue methods, to propose an appropriate inspection/replacement life cycle.

AIAA Design Build Fly (DBF) – 2015/2016: Structures Lead for WSU 2015/2016 DBF team

Moving Surface Wing Research (Spring 15)- Modified a patented device, which utilized a rotating surface on exterior of wing. Testing was conducted in the NIAR, Walter H. Beech Memorial Wind Tunnel.

REFERENCES:

Available upon request.

<https://www.linkedin.com/in/malik-kabbani>