Gabriel Johnson
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FORMAL EDUCATION

LETOURNEAU UNIVERSITY **AUGUST 2015 – MAY 2018**

MS, MECHANICAL ENGINEERING

- Research focused on terminal flight characteristics, scale modeling, rapid prototyping, real-world instrumentation
- Thesis titled: "Design and Experimental Testing of a Free-Fall Cargo Delivery System for a Missions Aircraft"

LETOURNEAU UNIVERSITY **AUGUST 2011 – MAY 2015**

BS, ENGINEERING, MATERIALS JOINING CONCENTRATION

- Capstone project: "Short Takeoff and Landing Missionary Aircraft (STOLMA)", designing modifications to an experimental kit-built aircraft for medical evacuations in a jungle environment

RELEVANT PROFESSIONAL EXPERIENCE:

LETOURNEAU UNIVERSITY

Adjunct Professor for Computer Aided Drafting and Design *Fall 2024*

- Weekly lectures and practical instruction in use of SolidWorks software
- Introduction to drafting standards, orthographic drawings, 3D views, dimensions, and tolerances

Instructor for Introduction to Engineering Practice (IEP) Lab *Fall 2017-Spring 2018*

- Lab associated with ENGR 1513 class
- Manager of 15 teaching assistants
- Supervised 174 students in construction of Freshman Build Project, a personal 3D Printer
- Responsible for student grades, final quality control of student-build 3D printers

Machine Designer for "Freshman Build Project-2017" *January 2017 – December 2017*

- Lab associated with ENGR 1513 class
- Evaluated existing design 3D printers, integrated top design features, constructed a prototype
- Managed procurement of components for a 200-machine production run
- Developed assembly documentation, established assembly quality standards

Lab Assistant for IEP Lab *Fall 2013 – Fall 2016*

- Lab associated with ENGR 1513 class
- Manager of 15 junior lab assistants,
- Final quality control of student-built 3D printers
- Promoted to Lead Lab Assistant in 2016

JOHNSON PROTOTYPING **2015-PRESENT**

Small business venture producing 3D printed components on a contract basis using a variety of FDM printers, focused on producing top-quality components from engineering thermoplastics (i.e. PETG, composite materials, ASA, nylon, PC, thermoplastic blends). Engineering design and drafting services were added in 2017, and SLS 3D Printing in nylon was added in 2023.

Flight INSTRUCTOR **SUMMER 2022-PRESENT**

- Trained primarily in Alaska from Private Pilot License to Certified Flight Instructor (CFI) rating.
- Provide one-on-one instruction in the safe and efficient operation of single-engine aircraft, in both Visual and Instrument conditions.
- Accumulated 745 hours total time and 356 hours of instruction given, as of Nov. 2024

ARC SPECIALTIES **SUMMER 2014**

Welding Engineering Intern

- Programmed and operated Kuka, ABB, and Arc Specialties robotic welding equipment
- Mechanical (destructive) and non-destructive testing for weld procedure qualifications
- GTAW electrode lifespan research project
- Operated and maintained a variety of shop machinery: overhead hoist, band saw, grinder, manual welder, manual lathe, manual mill, other hand and power tools

CATERPILLAR **SUMMER 2013**

Welding Engineering Intern

- Generated safety documentation and standard operating procedures for an experimental mechanized Submerged Arc Welding (SAW) cladding process
- Managed production of field-test components using experimental cladding process
- Programmed and operated Wolf Robotics ABB and AMET robotic manufacturing systems
- Operated shop machinery: overhead hoist, band saw, grinder, manual welder, and other hand and power tools

PUBLICATIONS AND CONFERENCE PROCEEDINGS

- Gabriel A. Johnson and Jesse J. French, “Evaluation of Infill Effect on Mechanical Properties of Consumer 3D Printing Materials,” Proceedings of ICATI Conference 2017, June 2017, Ko Samui, Thailand, Paper # CA7006
- Gabriel A. Johnson, “Design and Experimental Testing of a Free-Fall Cargo Delivery System for a Missions Aircraft,” LeTourneau University, August 2018

SOFTWARE EXPERIENCE

CAD: SolidWorks, Autodesk Inventor, Autodesk Fusion360, KiCAD, SketchUp
CAM: Simplify3D, Slic3r, Mach3, Autodesk Inventor, Autodesk Fusion360
FEA: COMSOL
General: Microsoft Office Suite, LaTeX, ArcGIS, qGIS
Programming: Arduino, Python, MATLAB, ABB Robotics, Kuka Robotics, Yaskawa YRC1000 (Robotics)
Hardware-level Firmware: Marlin, RepRapFirmware, Sailfish, GRBL, Betaflight, iNav, Ardupilot

Certifications

Yaskawa YRC1000 Basic Programming with Welding — 2025
Certified Flight Instructor, Instrument, ASEL (CFI/I) — 2023
Advanced Ground Instructor — 2022
Commercial Pilot, Instrument, ASEL — 2022
Certified SolidWorks Associate (CSWA) — 2018
PADI Open Water Diver — 2014
NAUI Open Water Diver — 2011

Research Interests

Material Science – Thermoplastics, Metals, Composites
Material Characterization – Mechanical testing, microscopy, NDE
Additive Manufacturing – FDM, DLP/mSLA, SLS 3D Printing
Sustainable Energy Development and Implementation
Water Filtration
Appropriate Technology and Cross-Cultural Engineering Integration
Aviation, Flight Vehicles, and Flight Characteristics

Service Learning

Thailand

- Multiple trips 2017-2018, Solar/Hydro power systems, airfield infrastructure development, water purification
- Service with the *Karen* minority people group, a group heavily impacted by the 70+ year civil war in Myanmar (Burma)

Korea

- Summer 2015, Solar power system install at a remote factory

Haiti

- Multiple trips 2010-2015, structure infrastructure development, power system improvement/optimization, water purification, radio broadcast setup, youth camp program

Louisiana, Mississippi

- Multiple trips 2005-2008, Assisted in cleanup and recovery operations following Hurricanes Katrina and Rita

Other Work Experience

- **Master Electrician, House Crew, Runner**: The Belcher Performance Center, LeTourneau University, Fall 2011-Present
- **Volunteer Firefighter**: Houston County Lake VFD, Grapeland, TX, Summer 2010-2015
- **Maintenance/Welder's Assistant, Wrangler**: Frontier Camp, Grapeland, TX, Summers 2008-2012

HOBBIES AND INTERESTS

Recumbent bicycling
Experimental aircraft
Bowhunting, duck and dove hunting
Raspberry Pi, Arduino, radio projects, and 3D Printing
Travel – International and domestic
Beekeeping
Gardening
Raising two children