

EMPLOYMENT

Software Engineer/Founder	VisualCalcs (startup)	March 2019 - Present
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Section Properties Calculator (VisualCalcs.com)

- Developed an in-browser CAD application that calculates the structural properties of beams for aerospace and civil engineering.
- Implemented this full stack application including a JavaScript/HTML/CSS client side with CAD drawing functionality. The Python/Flask server side accepts JSON representations of the user's input and performs numerical analysis.

Structures Engineer	Altech Aerospace	August 2018 – March 2020
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- Authored structural analysis for a major radome installation on upcoming Airbus aircraft. This analysis, which typically takes four months, was submitted to the FAA in less than 2 months due to use of VBA and Python to automate simulation tasks, run analyses, and generate reports.
- Designed and substantiated structural repairs and modifications for major US carriers.

Mechanical Engineer, Intern	Tektronix	September 2017 – June 2018
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- Designed and implemented assembly system enabling the user to constantly glue a 5mm optical prism to the end of a bundle of fiber cables with +/- .05mm positional tolerance.
- The system involved actuated motion, machined components, high-magnification optics, a GUI (VBA), and a UV-curing adhesive dispenser. The project was completed under budget and with all stretch goals met.
- System was integrated into the manufacturing process of their flagship military avionics component.

Mechanical Engineer, Intern	Daimler	April 2016 – September 2016
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- Designed, prototyped and tested components for use in the powertrain of the premier Freightliner vehicle.
- Used VBA to automate interaction between legacy information systems and Excel.

Musician/Music Teacher	Self-Employed	March 2011 – September 2014
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- Performed and recorded with multiple groups, managed a teaching studio, and taught lessons and classes.

EDUCATION

Portland, OR	Portland State University	September 2014 – June 2018
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- Bachelor of Science, Mechanical Engineering. In-major GPA: 3.8.

Eugene, OR	University of Oregon	September 2010 – June 2014
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- Bachelor of Arts, Music Performance.

PROJECTS

Personal Website: dthomas.io (for additional information and projects)

- **Digital Meeting Scheduler** (In Progress). Web-based tool that generates and distributes polls to determine best meeting time and platform.

Technologies Used: Node.js, Express, MySQL, HTML/CSS

- **Uptower Data Acquisition Device**, a remote monitoring system for wind turbine power generation. Developed FIFO routines to manage asynchronously collected data, implemented software and hardware filters, created packet-based wireless communication protocol with data transmission error detection and implemented power saving modes to allow continuous data collection during low wind periods.

Technologies Used: C, ARM Cortex-M4, I2C, SPI, UART, CubeMX, Eclipse, Oscilloscope, Breadboard

LANGUAGES AND TECHNOLOGIES

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- Languages (proficient): JavaScript, Python, HTML/CSS
 - Languages/Frameworks (familiar): C, Node.js, Flask, Django, MySQL, Express
 - Software: SolidWorks, PTC Creo, Siemens NX10, FEMAP, MATLAB, Visual Studio, PyCharm