# Daniel J. Hocheimy

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## Education

**Florida Institute of Technology, Melbourne, FL**

**M.S.** Mechanical Engineering | GPA, 3.87 ---------- Aug 2022 – May 2024

**B.S.** Mechanical Engineering, Nanotechnology Minor | GPA, 3.86 ---------- Aug 2015 – May 2019

**UWC Atlantic College, Wales, UK**

International Baccalaureate Diploma Program ---------- Aug 2011 – May 2013

## Skills

**PC & Simulation Skills**
- PTC CREO
- AutoCAD
- Inventor
- Fusion360
- ANSYS*
- Python
- MATLAB

**Tools & Equipment**
- Waterjet
- 3D-printing
- Laser Cutting
- CNC Mill
- Hot Wire CNC
- Standard Machine Tools
- SEM

**Project Management**
- Proposal Writing
- Report Writing
- Instruction Manuals
- Budget Planning
- Task Management
- Presentations

**Additional Skills**
- Surveys/ Inspections
- Tutoring/ Training
- National Electrical Code
- Florida Building Codes
- Certified Scuba Diver
- Machine learning (NN)
- Web & App Design

## Experience

**M2X Energy, Inc, Rockledge FL | Process Mechanical Engineer** **August 2024 – July 2026**

Process Engineering, DFM, Field Engineering (Product development & Systems Integration)

- Design for manufacturing - modular/ mobile gas to methanol systems, gas pretreatment systems, and RNG systems
- Owned design build projects: Syngas conditioning, gas compressors skid integration, Methanol synthesis skids, Methanol collection/ distillation systems design, CatOX skids, full system integration design. Additionally, $H_2S$ Removal systems, and adsorption-based gas pretreatment skid design; Renewable Natural Gas systems – vacuum compressor skid
- Quality Control, FAT, SAT – instructional reports/ feedback
- Process design, thermal, fluid, and structural analyses of proposed systems including FMEA
- Field testing and validation for a gas to methanol modular plant, and gas pretreatment system – spec'd to run off landfill gas
- Procurement (BOMs & POs)/vendor relations – Gas compressors, and other major process equipment

**Protodromics, Inc, Melbourne FL | Contract** **May 2023 – September 2023**

Client Product Development (Prototype Design & Build)

- Particle classifier for jet fuel analysis: 3D design optimization, thermal management, packaging updates and analysis
- Portable UV-Viz spectrometer mechanical design, and manufacturing for additive processes
- Electro hydrodynamic pump and heat exchanger design and manufacturing through additive processes: Parametrized design through function inputs
- Isopropyl Alcohol vacuum distillation unit – IPA recycling from dental lab waste
- Thermal systems design - assembly support – Weather Radar System

**C&H Merrill, Inc, Palm Bay FL | Mechanical Engineer | MEP & Machine Design** **March 2020 – July 2022**

MEP Engineering (Mechanical, Electrical & Plumbing Engineering)

- Designed HVAC plans using AutoCAD on architectural backgrounds and determined load using Wright Soft, Right-Suite
- Developed Lighting, Power, Plumbing, and Mechanical plans using AutoCAD for residential and commercial applications
- Developed piping and equipment layouts for commercial purposes using AutoCAD and Inventor - large scale water filters, heat exchangers and pump selection for amusement park rides, boilers, and chillers
- Conducted surveys/ inspections on existing buildings/sites for modifications to HVAC, Power, Lighting, and Plumbing plans

Machine Design (Design, Assembly, Installation)

- Developed engineering concept designs for machine design project bids using AutoCAD and Inventor - presented concepts
- Project examples: Self-levelling spring loaded ladders for ferry boat access, winch-controlled dive barges for scuba diving, swing bridges, dolphin and manatee aquarium lifts and other machine design projects for marine applications
- Assembled machined parts in-house with standard machine tools, walkie-stacker - assisted on site installations
- Inspected existing machinery developed by 3rd party engineering firms and wrote reports on needed fixes and changes

## Academic Research/ Jobs

AETL Lab (Adsorption Energy Technology Lab) | Researcher August 2022 – May 2024

- Research focused on optimizing adsorption-based systems. Fabricating thermally efficient adsorption beds for $CO_2$ capture and optimizing thermally driven refrigeration. Included a focus on scaled up manufacturability:
- Synthesis of Durable Zeolite 13X Insertion Coatings and Scaled-Up Experimental Demonstration for CO2 Capture (2024). Theses and Dissertations. 1433.
- Fabricating porous adsorbent coatings using resin curing method: A comprehensive experimental Investigation – 12 (2024) 113389. Journal of Environmental Chemical Engineering, 12 (2024) 113389
- Scaled-up fabrication of durable and porous adsorbent-coated minichannels on aluminum for CO2 separation. Chemical Engineering Journal 513, 162652
- Data Center cooling using single adsorption bed – pending journal paper

L3 Harris Student Design Center | GSA – Student Projects Aug 2022 – May 2024

- General machine shop management/ up-keep and support for student design–build projects, including:
- Maintained and repaired laser cutters; organized and supervised student training
- Performed maintenance on a ProtoMAX waterjet and led instructional workshops
- Managed hot-wire CNC upkeep and provided hands-on training to students
- Operated and maintained a 3D print farm (FDM and SLA)
- Utilized and maintained standard machine tools and assisted students in their use

Academic Support Center | Academic Tutor Oct 2017 – May 2019

- Tutored Mechanical Engineering and science-based classes both privately and through lectures as a certified tutor

Data Management | Volunteer Oct 2019 – March 2020

- Organized past energy audit data for 33 Brevard Public Schools using MS Excel
- Provided variables and parameters to be used in a neural network to predict future energy use per school

**Research/ Projects**

Hybrid Air-Conditioning System | Senior Design Team Leader April 2018 – May 2019

- Led team of six to design and produce a hybrid cooling system which uses ice batteries and evaporative cooling technology
- Achieved 15% reduction in RH, and 7 $^{o}$F reduced temperatures for required room size of 121 SQFT

3D Force Sensor | Undergraduate Research May 2017 – July 2018

- Worked on the design and development of a 3D force sensor that measures forces on cell surfaces for medical applications
- Modelled sensor using PTC CREO and calculated predicted sensory feedback using MATLAB/ Simulink

Nano Positioning 3D Printer | Undergraduate Research June 2018 – Dec 2018

- Contributed to the design and development of a 3D printer with submicron precision using servo & piezo actuators

## Awards/ Honors

· Distinguished Student Scholar · Dean's list · Tau Beta Pi honor society · Florida Tech Scholarship · Allen S. Henry Scholarship · Panther Plate Scholarship