

Jackson Meeks

OBJECTIVE

To apply programming, artificial intelligence, and device fabrication to develop computational and energy systems that address world needs.



ADDRESS

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SKILLSET

- **1000+ of hours programming experience:**
 - Python (including Tensorflow and Keras), C++, Julia (including differentiable programming with Flux), Mathematica, and VBA, with experience in machine learning/AI, deep neural networks, metaprogramming, and data analysis
 - Experience designing neural networks (including dense, convolutional, and recurrent network types) for data classification and regression (including time-series data such as text and sound)
 - Knowledge in neural network hyperparameter tuning via evolutionary optimization methods
 - Designed an automated financial trading system that made 8.34% return on investment in 1 month
- **Lab and Professional Training in:**
 - Atomic layer deposition
 - General anatomy/neuroanatomy, biochemistry, and physiology
 - Nanoparticle synthesis/structure prediction
 - Sputtering
 - Material surface modification for biological applications
 - Medical device output classification via AI/machine learning
 - Ellipsometry
 - Atomic force microscopy
 - Scanning electron microscopy
 - Thermal oxidation
 - Photolithography and nanolithography
 - FDTD and FEM optical simulations in COMSOL Multiphysics and Ansys HFSS
- **Multivariable system optimization:**
 - Skill working with genetic algorithms and evolutionary computation for system optimization
 - Custom-made software developed allowing for progressive program evolution via metaprogramming to solve a user-defined objective, which program's features include:
 - Novel function generation and fitness-testing
 - Adaptation to changing environments/objectives
 - High-level symbolic function representation with a recurrent data flow structure
- **3D modeling:**
 - Both in Solidworks and Fusion360
 - CAD modeling from 2D blueprints
 - CAD modeling from scratch in iterative design processes
- **Manufacturing processes knowledge:**
 - Including experience in:
 - SLA 3D printing
 - Aluminum metal casting and machining

I have demonstrated an ability to work iteratively, designing systems that help address real world challenges – and I have shown that I am willing to do the work necessary, including learning new systems and skills, in order to obtain a desired result.

EXPERIENCE AND WORK

- **Group management experience:**
 - Leadership positions, including:
 - Weekly church activity event planning (with groups of 10-50 individuals) as an event co-chair
 - Large event planning (50-100 individuals) as co-coordinator
- Class notetaker at Logan University – Summer-Fall 2017
- Chiropractic assistant at Quest Chiropractic – Fall 2016
- Sales representative with Aptive Environmental – Summer 2016
- Two-year unpaid volunteer mission trip to Brazil – Fall 2012-Fall 2014

DIPLOMACY

- **Dual Citizen:**
 - American
 - Canadian
- **Trilingual:**
 - Fluent in English and Portuguese
 - Conversant in Spanish
- **Public speaking:**
 - Bi-monthly lecturing via church positions and activities, and occasional speeches addressed to a large congregation

EDUCATION

Degree/Academic Accomplishments:

- Master of Science in Engineering at the Nanoscale (in progress) at Pennsylvania State University:
 - Fall 2019-present
- Bachelor of Science in Life Science at Logan University:
 - Spring 2017-Winter 2018
- Passed Chiropractic Boards Part 1 at Logan University:
 - Winter 2019
- Mechanical Engineering degree candidate at BYU-I:
 - Fall 2014-Spring 2016

Noteworthy Classes:

- Fabrication and Characterization for Top-down Nanomanufacturing
- Fabrication and Characterization for Bottom-up Nanomanufacturing

Noteworthy Classes (continued):

- Chemical Nanoscience
 - Inorganic Energy Materials
 - Electromechanical Devices
 - Cell and Molecular Bioengineering
 - Nanotechnology: Materials, Infrastructure, and Safety
 - Engineering at the Nanoscale
 - Pattern Transfer at the Nanoscale
 - Nanophotonics
 - Neurobiology
 - Engineering Graphics (3D modelling via Solidworks)
 - Engineering Computation
 - Manufacturing Processes
 - Calculus
 - General Chemistry
 - Principles of Physics
 - Professional doctorate level courses in:
 - Physiology
 - Biochemistry
 - Neuroanatomy
 - Internal Disorders
 - Radiology
 - Clinical Anatomy (including 30+ hours of cadaver dissection)
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