

James Mendel

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TECHNICAL SKILLS

Altium Designer SPICE SMT Soldering PCB Bringup C / C++ MATLAB Python Arduino VBA Minitab

EDUCATION

Electrical Engineering, Bachelor of Science
University of Kansas, Lawrence KS

May 2023
GPA: 3.89/4.00

Design for Six Sigma, Green Belt

Expected Jun 2024

PROFESSIONAL EXPERIENCE

R&D Electrical Engineer — Rotation Program
Medtronic, Jacksonville, FL

Jul 2023 - Present
Full Time

- Lead engineer to develop, characterize, and test novel sensing method for release in new medical device
- Following IEC 60601-1 to co-develop EMC pre compliance testing plan for NPI medical device
- Updating sensitive analog front-end to reduce noise for EMG system (10 μ V to 0.1V) continuous improvement

R&D Electrical Engineer — Intern
Medtronic, Jacksonville, FL

Jun 2022 - Aug 2022
Full Time

- Utilized Altium Designer to design, lay out, order, assemble, and bring up PCB to characterize performance of PDN simulation software and train an audience of ~15 engineers
- Tested continuous improvements for rechargeable battery system by interfacing and analyzing BMS IC data
- Developed firmware for embedded STM32 microcontroller to interface with digital and analog components

Manufacturing Engineer — Intern
Medtronic, Santa Rosa, CA (Remote)

Jun 2021 - Aug 2021
Full Time

- Automated calculation of a key business metric by creating VBA macros in Excel to extract and analyze thousands of data points and reduce labor by >95%
- Documented the program to allow for future support, created installer package for ease in usability

Electrical Engineering Technician
Filtronetics, Inc., Kansas City, MO

May 2019 - Jan 2020
Full Time

- Qualified batches of RF filters (mini-monolithic, saw, and ceramic) using Agilent network analyzer ~45 filters/hr
- Accelerated logging process by automating Excel spreadsheets using VBA macros, reducing entry time by 50%

RESEARCH

Undergraduate Research Assistant

Center for Remote Sensing and Integrated Systems, Lawrence, KS

May 2022 - May 2023

- Led project team of 4 engineers to successfully miniaturize Ka-band radar module with low cost target
- Designed switching power supply modules (Buck, SEPIC, Flyback topologies) for use in aircraft radar systems
- Characterized RF performance of board-to-board connectors to validate use in radar systems @ 18-22GHz

Radar Systems & Remote Sensing Lab, Lawrence, KS

Mar 2022 - Jun 2022

- Implemented range doppler radar DSP in MATLAB to synthesize chirp signal, identify matched filter response, and introduce simulated point scatterers

WORK EXPERIENCE

Code Sensei (Supplementary Instructor)
Code Ninjas, Leawood, KS

Jan 2018 - May 2019
Part Time

- Worked with groups of 10-20 children ages 7-14 to advance their knowledge of programming languages including Python, JavaScript, and Scratch

ACTIVITIES

- **IEEE@KU**, Event Chair, Vice-President, Secretary, Member 2020 - 2023
- **HKN (Gamma Iota Chapter)**, Secretary, Member 2022 - 2023
- **Boy Scouts of America**, Earned the rank of Eagle, Webmaster 2011 - 2018