JAMES MCNANEY

Electrical Engineer

jdm17@rice.edu

EDUCATION

Rice University *Graduated May 2020*

Bachelor of Science in Electrical Engineering

Cumulative GPA: 3.709

Rice University *Expected graduation: May 2022*

Professional Masters of Electrical Engineering Program

Cumulative GPA: 3.207

Relevant Coursework:

Artificial Neural Networks, VLSI Systems Design, Engineering Persuasion, Intro to Random Processes, Digital Integrated Circuits, Computer Systems Architecture, Signals Systems and Machine Learning, Random Signals, Physical Electronics, Digital Logic Design, Implementation of Digital Systems, Quantum Mechanics, Learning From Sensor Data, Intro to Computer Vision

EXPERIENCE

Rice University (Houston, Texas) Summer 2019, 2020

Undergraduate Researcher

· Integrated a realistic channel model (QuaDRiGa) into simulations utilizing decentralized algorithms for 5G, MU-MIMO communication systems
· Developed simulation software for modeling MU-MIMO systems using power amplifiers
· Listed as a co-author on a research paper submitted for the 2019 Asilomar Conference (*arXiv:1912.04437*)

KB Electronics (Coral Springs, FL) Summer 2018

Electrical Engineering Intern

· Researched and developed a pseudo-bootloader to implement firmware updates to motor drives through serial communications
· Performed part qualification testing to substitute obsolete parts
· Presented to upper management and attended weekly roundtable meetings with engineering department

Doerr Institute: Professional Leadership Coach Training Fall 2018 - Spring 2019

CoachRICE Student

· Completed 60 hours of International Coach Federations approved coursework to become a formally trained peer leadership coach
· Developed tool kit and methodology to coach and develop others as leaders

PROJECTS

· Implemented a predictive maintenance system for natural gas compressors utilizing anomaly detection and other machine learning techniques.
· Refined, and commercialized an existing prototype for intramedullary nail surgery as part of a Senior Design team capstone project (patent pending).
· Developed an original VLSI Microcontroller to simulate a cellular automata. Chip successfully fabricated and packaged
· Created an embedded system project which implemented Conway's Game of Life in 3-Dimensions. https://james-collin-elec327.github.io/james_collin_GOL/

EXTRA-CURRICULARS AND ACCOLADES

NCAA Track and Field National Championship 2021
Competitor in Javelin

NCAA All-American 2021
Honorable mention in Javelin

Rice Men's Track and Field 2016-2021
Pole Vault and Javelin

Rice Data to Knowledge Lab 2021
D2K Showcase winner

IEEE-Eta Kappa Nu 2020
Inducted Member

ECE Future Star Scholarship 2020

George R. Brown School of Engineering Scholarship
for Professional Master's Degrees in Engineering 2020

Track and Field Scholar Athlete 2019-2020

Track and Field Honor Athlete 2018-2019

Conference USA Commissioner's Academic Medal 2016-2018

Conference USA Commissioner's Honor Roll 2016-Present

President's Honor Roll 2017