

Daniel A. Noble Hernandez

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EDUCATION

The University of Texas at Austin College of Natural Sciences	Master of Science in Computer Science GPA: 3.9/4.0	Expected May 2021
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Coursework: Machine Learning, Neural Computation, Decision Analysis, Cybersecurity Policy/Law, Algorithms

The University of Texas at Austin Cockrell School of Engineering	Bachelor of Science in Biomedical Engineering Honors GPA: 3.5/4.0	May 2019
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Coursework: Matrix Theory, Discrete Mathematics, Embedded Systems, Computational Methods, Numerical Methods, Software Design, Biomedical Instrumentation, Signal and Systems Analysis, Probability and Statistics

ACADEMIC PROJECTS

Brain Tumor Segmentation (BraTS) and Survival Prediction Model	March 2019 – May 2020
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- Developed a generative adversarial network that could segment tumors in MRI scans using the BraTS dataset.
- Designed a neural network and a support vector machine that could separately predict the survival rate of patients.
- Beat the existing model's validation data accuracy of 0.448 with an accuracy of 0.576.

Transpulmonary Pressure Monitoring System	August 2018 – May 2019
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- Researched and designed an innovative multi-balloon catheter transpulmonary pressure monitoring device.
- Built and tested prototypes of an esophageal sensor on a multi-catheter system, using independent balloons and sensors that improved on existing solutions.
- Programmed a microcontroller in C to interface the pressure sensor with a ventilator and an LCD screen to display waveforms of esophageal, airway and transpulmonary pressure.

EXPERIENCE

Center for Computational Oncology – <i>Research Assistant</i> , Austin, TX	May 2017 – May 2019
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- Wrote MATLAB scripts that extracted and tested features of MRIs of pancreas in patients with type 1 diabetes (T1D) to determine the best predictors for the disease, generating ROC curves for each.
- Designed a random forest machine learning algorithm to classify MRIs as belonging to someone with T1D, without T1D, or in a pre-diabetic stage based on these extracted predictive features.

Office of Admissions – <i>Student Ambassador, Traditions Chair</i> , Austin, TX	September 2017 – August 2019
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- Participated in student panels at admissions events for prospective students and led tours of the UT campus.

Analytics Advisory Group – <i>Data Analyst Intern</i> , Austin, TX	June 2018 – August 2018
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- Wrote SQL stored procedures and functions to generate supplemental files for the client, Austin Regional Clinic.
- Worked in Agile to redesign the client's data warehouse build procedure to create schemas and populate tables.

Center for Cardiovascular Simulation – <i>Research Assistant</i> , Austin, TX	January 2017 – May 2018
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- Grew heart cells for use in experiments, prepared cell culture media, and fabricated VIC-hydrogels for simulated testing of heart valves and study of heart disease progression.
- Wrote MATLAB scripts to analyze different parameters of images of the heart cells embedded in hydrogels.

ACTIVITIES AND AWARDS

<i>Tutor</i> , Eastside Memorial High School	September 2016 – May 2019
<i>Volunteer</i> , St. David's Medical Center	January 2017 – May 2018
<i>Chair of Public Relations</i> , Men Can End	September 2017 – May 2018
<i>Mentor</i> , Engineering Honors Program	September 2016 – May 2017
Engineering Honors Scholarship	Fall 2015 – May 2019
University Honors (4 semesters)	Fall 2015 – Fall 2016, Fall 2018

SKILLS

Computer Skills: C, Java, Python (NumPy, scikit-learn), SQL, JavaScript, MATLAB, R, ARM Assembly, Git, Linux
Languages: Native Proficiency in English and Spanish; Intermediate Proficiency in French