**Michael Koger Darden**

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**EDUCATION**

**Bachelor of Science, Electrical and Computer, Aug 2018**

The University of Texas at Austin

**GPA**: **3.76/4.00**

**Related Courses**

Embedded Systems, Software Design and Implementation (I & II), Circuit Theory, Linear Systems & Signals, Algorithms, Probability, Electromagnetic Engineering, Real-Time Digital Signal Processing, Digital Image & Video Processing, Principles of Data Science, Data Science Lab, Honors Senior Design, Automatic Control

**WORK EXPERIENCE**

**Student Technician, UT LAITS** 06/18 – 08/18

* Performed daily morning checks of classroom technical equipment
* Handled customer support calls and helped resolve technical issues

**Student Technician, UT Applied Research Laboratories** 06/16 – 08/16

* Setup *GitLab Continuous Integration* (CI)
* Wrote scripts in *Bash* to facilitate CI testing

**ACADEMIC EXPERIENCE**

**Honors Senior Design Project, The University of Texas at Austin** 11/17 – 05/18

* Helped develop an automated team-formation web application for UT faculty
* Developed multiple algorithm implementations, eventually cutting runtime down by 10x
* Documented all steps of the design, research, and implementation process

**Software Engineering and Design Lab, The University of Texas at Austin** 01/18 – 05/18

* Created a webapp using *flask* and *materialize* that gives you cocktail recipes from on-hand ingredients
* Created an *android* app that finds the current time at a location using Google *geocoding* and *timezone* *API*s
* Created an online blog website using *Java* and *Google App Engine*

**Data Science Lab, The University of Texas at Austin** 01/18 – 05/18

* Attempted to generate new Pokémon with a *convolutional GAN*, used *tensorflow* and *Microsoft Azure*
* Performed data visualization, preprocessing, feature engineering/analysis, and machine learning in mock *Kaggle* competition

**Digital Image Processing Project, The University of Texas at Austin** 11/17 – 12/17

* Implemented motion tracking on stationary videos to extract objects of interest
* Worked with *MATLAB* image processing and computer vision libraries

**Principles of Data Science Project, The University of Texas at Austin** 10/17 – 12/17

* Predicted outcomes of baseball games using player statistics
* Worked with *Ensembles*, *XGBoost*, and other models from *scikit-learn*
* Achieved an average accuracy higher than home-team baseline

**Real-Time DSP Lab, The University of Texas at Austin** 01/17 – 05/17

* Designed and implemented digital FIR and IIR filters
* Simulated software-defined radio and Implemented PAM transceivers
* Worked with signal generators, oscilloscopes, *MATLAB*, and *TI Code Composer Studio*

**Software Design Project, The University of Texas at Austin** 06/16 – 08/16

* Created a graphical critter simulator using *Java*
* Learned how to use java Reflection and *JavaFX* libraries as well as *Scene Builder*

**Embedded Systems Project, The University of Texas at Austin** 04/15 – 05/15

* Created a “tag” video game on the *TM4C123 microcontroller* using *C* and *ARM assembly language*
* Placed in “supreme” category

**Robotathon 2015, UT Robotics and Automation Society** 10/15 – 11/15

* Created a robot car to play RAS-ball
* Programmed in *VIM*

**Robot Car Project, The University of Texas at Austin** 10/14 – 12/14

* Programmed in *Labview* and built breadboard circuits
* Interfaced photoresistors and IR sensors

**PERSONAL PROJECTS**

**Gravity IO Game** 07/18

* Created an online multiplayer IO game using *Node.js* and *socket.io* with chat and leaderboard features
* Worked with *HTML5 Canvas* elements and *Javascript prototype inheritance*

**HackTX 2017, The University of Texas at Austin** 10/17

* Created an accessible web-archive of dance videos hosted using *nginx*
* Worked with *flask* to populate page templates from a CSV database

**Personal Server** 08/16

* Setup a Proxmox server to host chat, game, and web servers
* Setup Linux containers, VMs, and SSH with RSA encryption

**3D design**

* Designed an infinity-standing-desk using *SOLIDWORKS* and *Git* 07/16
* Designed and *3D printed* a formicarium using *SOLIDWORKS* and *MakerBot* 04/16

**Arduino Projects**

* Created an internet controllable desk-light using *Javascript* and *PHP* 09/16
* Created a Bike-Wheel Display using *Image Processing* 02/16
* Created a *5V DC power supply* 12/15

**HackTX 2015, The University of Texas at Austin** 09/15

* Created a static website using *HTML/CSS*
* Worked with *GitHub*

**SKILLS**

Experience with *Git, Vim, Java, C, C++, Bash scripting, MATLAB, Assembly language*, *Labview*, *TI Code Composer Studio, Python, TensorFlow, Google App Engine, and Android*

Proficient in *Windows, OS X, and Linux*

Experience with *soldering* and breadboard-circuits

Experience with *Arduino*, *Launchpad microprocessors*, and *TI TMS320C6700 Digital Signal Processors*

Experience with responsive *HTML/CSS* web-design*, Bootstrap, Javascript, PHP, flask,* and *Node.js*

Experience with *GIMP* and *Photoshop*

Experience with *SOLIDWORKS* 3D design

Familiar with *Spanish* and *Portuguese*

Familiar with *Mandarin Chinese*

**ACCOMPLISHMENTS**

*Texas Tricking* Club *President*, 2017 – 2018

UT Social Dance *Class Assistant*, 2016 – 2018

*Huawei Seeds for the Future* Participant, 2017

Volunteer: English teacher in Peru, 2014

Volunteer: Veterinary assistant at Cape Town SPCA, 2013

*Drumline Lieutenant*, Outstanding Leadership Award, 2012-2013

*Eagle Scout*, 2009