

**Michael Koger Darden**  
17150 Round Mountain Rd. | Leander, TX 78641  
(972) 762 6663 | [mkogerd@utexas.edu](mailto:mkogerd@utexas.edu)  
[www.mkogerd.com](http://www.mkogerd.com)

## EDUCATION

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### Bachelor of Science, Electrical and Computer, August 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

<b>Student Technician, UT LAITS</b>	06/18 – 08/18
<ul style="list-style-type: none"><li>• Performed daily morning checks of classroom technical equipment</li><li>• Handled customer support calls and helped resolve technical issues</li></ul>	
<b>Student Technician, UT Applied Research Laboratories</b>	06/16 – 08/16
<ul style="list-style-type: none"><li>• Setup <i>GitLab Continuous Integration (CI)</i></li><li>• Wrote scripts in <i>Bash</i> to facilitate CI testing</li></ul>	

## ACADEMIC EXPERIENCE

<b>Honors Senior Design Project, The University of Texas at Austin</b>	11/17 – 05/18
<ul style="list-style-type: none"><li>• Developed an automated team-formation web application for UT faculty</li><li>• Developed multiple algorithm implementations, cut runtime down by 10x</li><li>• Documented all steps of the design, research, and implementation process</li></ul>	
<b>Software Engineering and Design Lab, The University of Texas at Austin</b>	01/18 – 05/18
<ul style="list-style-type: none"><li>• Created a cocktail recipe webapp using <i>flask</i></li><li>• Created a timezone-exchange <i>Android</i> app using Google <i>geocoding</i> and <i>timezone APIs</i></li><li>• Created an online blog site using <i>Java</i> and <i>Google App Engine</i></li></ul>	
<b>Data Science Lab, The University of Texas at Austin</b>	01/18 – 05/18
<ul style="list-style-type: none"><li>• Attempted to generate new Pokémon with a <i>convolutional GAN</i>, used <i>tensorflow</i> and <i>Microsoft Azure</i></li><li>• Used machine learning in mock <i>Kaggle</i> competition</li></ul>	
<b>Digital Image Processing Project, The University of Texas at Austin</b>	11/17 – 12/17
<ul style="list-style-type: none"><li>• Implemented motion tracking on stationary videos to extract objects of interest</li><li>• Worked with <i>MATLAB</i> image processing and computer vision libraries</li></ul>	
<b>Principles of Data Science Project, The University of Texas at Austin</b>	10/17 – 12/17
<ul style="list-style-type: none"><li>• Predicted outcomes of baseball games using player statistics</li><li>• Worked with <i>Ensembles</i>, <i>XGBoost</i>, and other models from <i>scikit-learn</i></li><li>• Achieved an average accuracy higher than home-team baseline</li></ul>	
<b>Real-Time DSP Lab, The University of Texas at Austin</b>	01/17 – 05/17
<ul style="list-style-type: none"><li>• Designed and implemented digital FIR and IIR filters</li><li>• Simulated software-defined radio and Implemented PAM transceivers</li><li>• Worked with signal generators, oscilloscopes, <i>MATLAB</i>, and <i>TI Code Composer Studio</i></li></ul>	
<b>Software Design Project, The University of Texas at Austin</b>	06/16 – 08/16
<ul style="list-style-type: none"><li>• Created a graphical critter simulator using <i>Java</i></li></ul>	

- 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**

### **Macro-tracker Web App**

10/18

- Created a web-app for tracking macro nutrition using *React.js*, *Node.js*, and *MySQL*
- Designed an API that handles user authentication and database interactions

### **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 *Java*, *C*, *C++*, *Python*, *Bash scripting*, *MATLAB*, *Git*, *Labview*, *TI Code Composer Studio*, *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 *HTML/CSS* web-design, *Javascript*, *PHP*, *Node.js*, *flask*, and *React.js*

Experience with *GIMP* and *Photoshop*

Experience with *SOLIDWORKS* 3D design

Familiar with *Spanish* and *Portuguese*

Familiar with *Mandarin Chinese*

## **ACCOMPLISHMENTS**

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*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