Larry Powell

EDUCATION

Texas A&M University, College Station, Texas   Expected Graduation 2021
Doctorate of Science in Computer Engineering
GPR: 4.0
Field: Human Computer Interaction, Machine Learning

Texas A&M University, College Station, Texas   Graduated
Graduate of Science in Computer Engineering
GPR: 3.571
Field: Human Computer Interaction

Texas A&M University, College Station, Texas   Graduated
Bachelor of Science in **Computer Science**
Minor in **Electrical Engineering, Certificate in Leadership**

EXPERIENCE

Idaho National Labs - Research Development - Software Engineering   Summer 2019
- Fire Watch
  - Developed a machine learning algorithm for detecting fire and smoke in multiple scenarios
  - Used Python to build a deep learning system and other machine learning algorithms
  - Curated and organized over 500 Gigs of data
  - Developed a self learning extraction system for the analysis of pure fire
  - Developed a machine learning image processing system to reduce blur and jitter

TieLabs - Research Assistant and Technical Developer   December 2019 - May 2019
- Making the Maker - STEM program to help children understand engineering
  - Developed 3D printing kits for elementary school classes
- MindReader - Cognitive support system for group collaboration through eye motions
  - Developed algorithms and software for eye tracking with C# and Python to support group project collaborations

Sandia National Labs – (CASA) Center for Analysis Systems and Applications
Graduate Research Intern   Summer 2018
- Mixed Reality Application for Earth Model
  - Developed mixed reality application that allows users to visualize and interact with an Earth model for the Microsoft HoloLens.
  - Enhanced the Earth model for the HoloLens with C# and Unity by adding new features such as timeline controls, Sun tracking, glint rendering, etc.
- Communication and Schedule Processing for a Satellite Ground Station
  - Developed UI application with Java and JavaFx that accessed schedule databases for multiple satellites and parsed the information in a way that enabled users to evaluate and understand schedule details.
  - Added enhanced processing capability to ground station software that enabled user requests for scheduling and planning data using Java.
  - Incorporated Scrum/Agile Communication and Tasking on the project.

Applied Cognition Labs - Research Assistant   Summer 2017 - Summer 2018
- Designed wearable android applications for stress detection.
- Analyzed data from sensor systems for stress detection.

Intel - Intern Platform Analysis Center Group   Summer 2016
- Developed software on multiple platforms and operating systems, automation scripts, and Parallel Computation process for Intel tools.

NXP - Intern Backend Verification Team   Summer 2015

- Designed and developed a data management and user interface job scheduler using Python and SQL.

Research Assistant - (REU Program) Summer 2014
- Designed features for MOOC Software with complex algorithms in Java.

RESEARCH

Movie Recommender - Natural Languages processing system for social media Spring 2019
- Designed and developed HTML Angular UI system to provide movie recommendations
- Developed backend with machine learning and rest api connection to a server
- Designed a natural language processing system to compare social media with movie plots

Teacher Helper - Wearable application communication for teachers and students Summer 2018
- Designed and developed javaFX application that communicates to wearable device of teachers to students
- Developed UI and Backend of Web application for teachers that communicated with Google Drive and SQL Database
- Designed a Bluetooth voice recognition android application that allowed teachers to send notes to students

PTSD Helper, Smart Nursing - Mobile application for Detecting Stress Summer 2017 - Present
- Designed and developed Machine Learning algorithm for detecting stress
- **Patents pending** for Machine Learning algorithm and UI of wearable PTSD monitoring system
- Project recognized and supported by **Vice President Mike Pence**

AquaHaptic: Wearable technology for multiple water based activities Fall 2017 - Present
- Designed and developed Artificial Intelligence for Detecting stroke types real time
- Provided feedback system for multiple environments

Minilinqual - Android application for Teaching Second Fall 2015 - Spring 2016
- Designed Artificial Intelligence and UI for Real Time Situations of Second Language.

Parallel Domain Sketch, Sketch Recognition Lab Spring 2015 - Spring 2016
- Developed a program that uses a GPU with machine learning to recognize drawings.

Course Sketch, Sketch Recognition Lab Fall 2013 - Spring 2014
- Developed enhancements of Mechanix for multiple domains for Massive Open Online Classes.
- Aided students taking multiple classes to organize and use scratch paper feature for calculations.

Mechanix Sketch Recognition, Sketch Recognition Lab Summer 2013
- Created a program that can teach students how to draw and solve truss/free-body diagrams.
- Responsible for identifying and fixing bugs, interface enhancements, database maintenance, and storage layout.

AWARDS

Graduate Engineering Minority(GEM) Fellowship Award Fall 2019
Texas A&M Graduate Leadership Award Spring 2019
1st place Graduate Poster Research ACM Tapia Conference Fall 2017
Research Honors from Project Hero(Non Profit for PTSD soldiers) Summer 2017
2nd Place Graduate Poster Competition SRW (Student Research Week) Spring 2014
Interdisciplinary Award SRW (Student Research Week) Spring 2014
Undergraduate Leadership Award TAMU Computer Science Department Spring 2014

CONFERENCES

CRA Grad Cohort for URMD Workshop Spring 2019
TAMU Sketch Recognition Conference Fall 2017
CODE2040 Conference - Organization for minorities in the tech industry Fall 2015 - Present
O.R. Simpson Honor Society Fall 2011 - Spring 2014
WIPPTE Conference Spring 2014
Grace Hopper Conference Fall 2014
Richard Tapia Conference Fall 2014 - Fall 2017

LEADERSHIP

Google Developer Group Texas A&M chapter - Lead organizer	Fall 2017 - Present
Graduate Lead TACS(Texas A&M Computing Society)	Fall 2016 - Spring 2017
Member/Officer CSEGSA(Computer Science Graduate Student Association)	Fall 2015 - Fall 2017
Member AWICS(Aggie Women In Computer Science)	Fall 2013 - Fall 2016
President UPE(Upsilon Pi Epsilon) Honor Society	Spring 2014
Vice President UPE Honor Society	Fall 2013
Corporate Liaison UPE Honor Society	Fall 2012 - Spring 2013
Member TACS(Texas A&M Computing Society)	Fall 2013 - Fall 2016
Member TAMU CCDC (Collegiate Cyber Defense Competition)	Fall 2012
Vice president Texas A&M Ice Skating Organization	Fall 2010 - Spring 2011
Member OR Simpson Honor Society	Fall 2011 - Spring 2014
Member Texas A&M Corp of Cadets	Fall 2010 - Spring 2014

ACTIVITIES

CODE2040 Hackathon Contestant	Fall 2017
Escape From Alcatraz Triathlon participant	Summer 2016
Texas Tri-Rock Triathlon participant	Summer 2015
The Big Event Group Leader	Spring 2010 - Spring 2014
Relay For Life Run participant	Spring 2010 - Spring 2011
Corps of Cadets Bonfire Committee	Fall 2010 - Fall 2012
Corps of Cadets March Of Dimes	Spring 2011 - Spring 2014

PUBLICATIONS

Seth Polsley, Vijay Rajanna, Larry Powell, Kodi Tapie, Tracy Hammond. IoWT(2016). "CANE: A Wearable Computer-Assisted Navigation Engine for the Visually Impaired"

Larry Powell, Tracy Hammond. Texas A&M Thesis(2019). "The Evaluation of Recognizing Aquatic Activities through Wearable Sensors and Machine Learning"