

Addison Elliott

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WORK EXPERIENCE

Southern Illinois University, *Edwardsville, IL*

Aug 2017 - Present

Biomedical Engineering Research Assistant

- Developing 3D medical imaging viewer using Python, PyQt5, VTK, ITK
- Developing MRI segmentation algorithm to find fat deposits
- Developing segmentation algorithm to find endocardial boundary from ultrasound images
- Developing numerous Python libraries to aid in completion of projects
- Git version control & GitHub in use for all projects in lab

Social Local Mobile, *Edwardsville, IL*

May 2017 - Present

Android & iOS App Developer

- Design and development of entire Android app using Android Studio
- Design and development of entire iOS app using XCode & Swift 4
- Developing database backend for user authentication and storage using MongoDB & Node.js

Electro-Motive Diesel, *LaGrange, IL*

May 2016 - Aug 2016

Electrical Engineering Intern

- Drafted a guide for the design and placement of isolated powertrains in repower locomotives
- Assisted in project management of repower locomotive
- Compiled service guide for the upgrade of electronics on repower locomotive

PROJECTS

Package for Adipose Tissue Segmentation

- Developed using Python, PyQt, VTK & Numpy as part of my graduate thesis
- Able to load and display 3D MRI & Ultrasound scans
- Wrote over 10,000 lines of code

MRI Fat Segmentation Algorithm

- Written in Python
- Uses classical image segmentation methods to find fat deposits in MRI scan
- Incorporates an active contour to find abdominal cavity
- Includes GUI to select user landmarks
- Works on three separate types of MRI scans used in lab

Polar Transform

- Python library to convert images between polar and Cartesian domain
- Supports start & stop angle and radial arguments
- Supports interpolation (bicubic, linear, nearest) for conversion

ADDITIONAL SKILLS

- | | | |
|--------------|----------------|-----------------------------|
| ✓ Python | ✓ Linux / OS X | ✓ Image Processing |
| ✓ Matlab | ✓ Git | ✓ Digital Signal Processing |
| ✓ C / C++ | ✓ Anaconda | ✓ Algorithm Development |
| ✓ C# | ✓ Qt | ✓ Continuous Integration |
| ✓ Javascript | ✓ OpenCV | |
| ✓ HTML / CSS | ✓ VTK | |

EDUCATION

Master of Science in Electrical Engineering

Southern Illinois University, *Edwardsville, IL*

May 2019

GPA: 4.0

Bachelor of Science in Electrical Engineering

Southern Illinois University, *Edwardsville, IL*

May 2017

GPA: 4.0