# JACK GULARTE

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## EDUCATION

**Seattle University** **Graduation: June 2019**

**Major:** B.S. Electrical Engineering; Computer Engineering Specialization (3.43 GPA)

**Minor:** Computer Science

**Related Coursework:** Computing Systems, Algorithm Analysis, Object Oriented Programming, Machine Learning, Internet of Things, Embedded Systems, Data Structures, Foundations of Computer Science

## WORK AND TECHNICAL EXPERIENCE

**Software Intern: Panthera** **April 2019 – Present**

- Involved in a team creating a RESTful API that connects the front-end of an application to a database.
- Initialized a RedShift database, imported data into it, and set up EC2 instances.
- API is written in Python utilizing the SQLAlchemy ORM connecting to a PostgreSQL-based database.

**Panthera Senior Design Collaborator** **September 2018 – June 2019**

- Developed a computer vision/machine learning program to help estimate wild snow leopard population from a set of images using Python and OpenCV.
- Refactored the code from simple script to a robust object-oriented program.
- Multithreaded the main program flow and added in a 'templating' functionality which when combined lead to a significantly reduced program runtime.
- Integrated 'adaptive histogram equalization' which helped with image recognition on dark and blurry images.

**ECE Department Teacher Assistant** **September 2017 – June 2019**

- Acted in a support role for multiple professors throughout the ECE department.
- Graded assignments, held office hours, assisted during labs, and acted as a senior class mentor.

**Keck IoT Grant Project Creator** **June 2018 – November 2018**

- Chosen by professors to create projects for the Keck IoT on behalf of Seattle U's ECE Department.
- Learned how to teach myself new topics, manage my own time, choose obtainable project deadlines and goals, and clearly document my work.

## PROJECTS AND LEADERSHIP

**Parking Lot Detection Model** **July 2018 – October 2018**

- Developed a neural network to determine how many parking spots are available in the SU lot.
- Learned how to train, test, validate, and deploy a machine learning model.
- Discovered a functional understanding of CNN's, PyTorch, and AWS components (S3, SageMaker, EC2)

**IoT Speech to Text Device** **July 2018 – November 2018**

- Used a Raspberry Pi, a MATRIX Creator, and a self-written C++ program.
- User would hold a button a speak into the device, the audio was sent to the IBM cloud. A text file was sent back to the Pi which would print it to the console and send the user a SMS message of the transcript.

**Seattle University IEEE Member** **January 2017 – Present**

## SKILLS AND ABILITIES

**Programming Languages**

Python, C#, Java, C++, PostgreSQL

**Software, Operating Systems, and Applications**

AWS: EC2, Redshift, IoT Core, Lambda, SNS

Operating Systems: Windows, Linux, Raspberry Pi

Software/Frameworks: OpenCV, PyTorch, Django, Flask, Jinja2, Spring, Spring Boot