Christopher Dinh

(240)-535-3571
cqdinh153@gmail.com
cqdinh.github.io
github.com/cqdinh
linkedin.com/in/cqdinh

Experience

September 2017 – Present
Undergraduate Researcher
UMBC Multi-Agent Planning and Learning Lab

Working on the problem of replanning in Abstract Markov Decision Processes, a hierarchical planning system.

May 2017 – August 2017
Summer Intern
MantaroBot Corp., Germantown, MD

Used Python and C# to implement an OpenCV-based computer vision system that allows a robot to find its charging station and dock itself.

March 2017 – May 2017
Google CodeU

Implemented feature additions to a chat application in Java as part of a team with two other students.
– Implemented update polling with multithreading.
– Implemented server persistence with SQLite.
– Code: github.com/cqdinh/codeu_project_2017

Participated in regular code reviews with a Google engineer and learned industry best practices such as unit testing and trunk-based development.

May 2016 – August 2016
Summer Intern
MantaroBot Corp., Germantown, MD

Used Python and Arduino to test an automatic docking system based on IR sensors and transmitters.

Used Python and C# to implement algorithms that minimize the stress on the joints of a robot arm using forward kinematics and gradient descent.

May 2015 – August 2015
Summer Intern
MantaroBot Corp., Germantown, MD

Used Octave, NumPy and MatPlotLib to prototype robotic wall detection using depth data from an Asus XTION. Developed an algorithm that clusters based on variance then uses a least-squares regression to convert clusters into lines.

May 2014 – August 2014
Summer Intern
MantaroBot Corp., Germantown, MD

Used HTML and Javascript with NodeJS and Java with the Android Development Kit to implement WebRTC in the TeleGo Controller and the Mantarobot Teleme Robot App.

Education

University of Maryland – Baltimore County
Expected Graduation: Spring 2019

Degrees:
B.S. Computer Science: Data Science Track
B.S. Mathematics

Honors: Merit Scholar, Dean's List

GPA:
Computer Science: **4.0**
Mathematics: **3.82**
Cumulative: **3.718**

Projects

2016 **Sequence Generator**
github.com/cqdinh/SequenceGenerator

2017 **CycleGAN Implementation**
github.com/cqdinh/TensorflowCycleGAN

2017 **Kaggle: Corporación Favorita Grocery Sales Forecasting**
github.com/cqdinh/kaggle_corporacion_favorita

2018 **AlphaZero Implementation**
Ongoing Course Project

2018 **CapsNet Implementation**
Ongoing Course Project

Technical Skills

Languages:

General Purpose	Python, Java, C++, C, C#, Go, R, x86 Assembly
Web Development	HTML, CSS, PHP, Javascript, Node.js
Other	LaTeX, MySQL, SQLite
Libraries / Frameworks	Numpy, Scipy, Scikit, MatPlotLib, Pytorch, Tensorflow, Pandas, Jupyter, Android ADK, Arduino

Relevant Coursework

Spring 2018

Introduction to Machine Learning
- Fundamentals of machine learning

Introduction to Computer Vision
- Fundamentals of computer vision
- Combined undergraduate / graduate course

Linear Algebra
- In-depth theoretical framework for linear algebra

Computer Architecture
- Low level design of computers

Fall 2017

Design & Analysis of Algorithms
- Common algorithms
- Big-O/Θ/Ω/o/ω analysis
- Algorithm design strategies

Introduction to Artificial Intelligence
- Fundamentals of AI and its sub-fields

Introduction to Data Science
- The data science process:
  - Storage with SQL, NoSQL, and Pandas
  - Preprocessing with Pandas
  - Analysis with Scikit-learn
  - Evaluation using Scikig-learn
  - Visualization using MatPlotLib
- Combined undergraduate / graduate course

Introduction to Numerical Analysis
- Algorithms for complex numerical operations
  - Solving linear systems
  - Interpolation
  - Differentiation & integration
  - Differential equation solving

Spring 2017

Computer Organization & Assembly Language Programming
- Low level digital logic
- x86 Assembly & C programming

Probability & Statistics
- Probability distributions
- Random variables

Fall 2016

Data Structures
- Fundamental data structures
  - Trees, heaps, hash tables, etc.

Principles of Programming Languages
- Language design & definition
- Parsing algorithms
- Various languages: PHP, MySQL, HTML, CSS

Spring 2016

Multivariable Calculus
- Applying calculus to multiple dimensions

Introduction to Differential Equations
- Common differential equation solving methods

Interests

Martial Arts:
- 3rd dan black belt in TaeKwonDo
  - started in 2004
- Participated in several martial arts clubs
  - Boxing
  - Jiujitsu
  - Sanda

Additional Information

A more verbose resumé: cqdinh.github.io/resume/