Loc **Trinh**

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Experience

MIT CSAIL Learning and Intelligent Systems | UG Researcher

Nov 2015 – Present | Cambridge, MA

- Exploring hueristic search, suboptimal search, and anytime search algorithms to solve robotic motion planning problems.
- Exploring automatic parameter tuning on off-line training data for utility-aware search in intelligent agent.

MIT Natural Language Group | Undergraduate Researcher

Jan 2015 – May 2015 | Cambridge, MA

- Implemented a Naive Bayes learning system to detect and classify recent English and Chinese news articles on adulterations and adulterated food.
- Designed a dynamic system to retrieve, scrape, and store recent world news from online resources, including CNN and BBC.
- Collaborated with PI and 2 graduate students in investigating trends in adulterated food and harmful adulterants.

MIT CSAIL InfoLab Group | UG Researcher

June 2014 – Aug 2014 | Cambridge, MA

- Implemented a parsing system that recognizes and translates thousands of Wikipedia infobox attributes to ternary expressions.
- Implemented pattern-matching templates, especially POS matching, to express relationships in sentences.
- Integrated the Python parser into Infolab's Lisp framework for an end-to-end question-answering system.

MIT EECS Department | Lab Assistant

Jan 2015 – May 2015 | Cambridge, MA

- Tutored and assisted MIT students in 6.01 Intro to EECS weekly design labs and software labs.

Education

Massachusetts Institute of Technology

Expected: May 2015 | Current GPA: 4.9

- S.B. in Electrical Engineering and Computer Science
- M.Eng. in Electrical Engineering and Computer Science
- Minor in Mathematics

Relevant Coursework

Computer Science

- 6.01 Introduction to EECS
- 6.004 Computation Structures
- 6.006 Introduction to Algorithms
- 6.008 Inference Algorithms
- 6.146 Mobile Autonomous Systems

Mathematics

- 18.02 Multivariable Calculus
- 18.06 Linear Algebra
- 18.200A Discrete Applied Mathematics
- 18.410 Design & Analysis of Algorithms
- 18.600 Probability & Random Variables

Technical Skills

Electronic Design

- Arduino/Teensy
- Raspberry PI
- Soldering
- Breadboard prototyping
- Use of test equipment

Programming

- Python, Numpy, Scikit
- C/C++, OpenCV
- JavaScript
- MATLAB
- Java

Web Development

- HTML, CSS, Bootstrap
- Flask, Django
- Node.js, MongoDB
- LAMP stack
- Adobe Photoshop

Leadership

Simmons Hall Officers |Tech Co-Chair 2016

- Webmaster for dorm website and provided tech assistant for +350 residents within Simmons Hall.
- Co-designed the new Simmons DB.

Simmons Hall Officers | EE Co-Chair 2015

- Headed the EE Laboratory and managed electronic tools and soldering equipments, providing a safe and convinience working environment for lab users.

Projects

robotLocomotion | Python - Inference

Nov 2015

- Infered robot's position using forward-backward algorithm on internal Hidden Markov model and noisy sensor data.
- Implemented Viterbi algorithm to infered the most likely sequence of the robot's positions, or hidden states.

musicVisualizer | Python - Signal processing & FFT

Sept 2015

- Designed a music visualizer program that senses beats in audio files for dorm room LEDs decoration.
- Integrated program with Raspberry Pi and used it to host an online music app, storing songs and various playlists.
- Implemented smoothing concepts from signal progressing and used Fast Fourier Transforms to categorize music frequencies.

faceRecognition | Python - Machine learning & sci-kit

August 2015

- Programmed an application in Python to video capture and detect friends' faces using the Sci-kit learning library.
- Improved program's accuracy using Randomized SVD decomposition to construct eigenfaces.
- Succeeded in recognizing familiar faces while failing to detect and extract faces from natural pictures.

langHelper | MEAN stack & UI design

Sept 2015

- Designed an online learning web application that helps user learn the syntactic differences between programming languages.
- Improved application functionalities with AJAX content, MongoDB query, and mobile responsiveness.

Activities

- Sailing
- Snowboarding
- Hiking & Camping
- Kayaking
- Swimming
- Reading war histories
- Performing magic