Utkarsh Patel

U.S. Citizen

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https://www.linkedin.com/in/utkarsh-patel/ | http://github.com/utkarshjp7/

EDUCATION

University of Southern California, Los Angeles, CA
M.S. Computer Science (Intelligent Robotics)
GPA: **3.33** | Aug 2018 - May 2020

Cleveland State University (CSU), Cleveland, OH
B.S Computer Science
GPA: **3.78** (Magna Cum Laude) | Jan 2014 - May 2018

APPLIED SKILLS

- **Programming Languages**: Python, C++. Java, C#, C, SQL, HTML, JavaScript
- **Frameworks / OS**: ROS (Robot Operating System), MoveIt, TensorFlow, PyTorch, Linux
- **Other**: MuJoCo, Gazebo, Rviz, Docker, NodeJS, MongoDB, PostgreSQL

WORK EXPERIENCE

Machine Learning Intern, *Zillow Group*, San Francisco, CA. May 2019 – Aug 2019

- Made it easier for 190M users to find homes by developing **natural language search** for Zillow.
- Designed **deep learning** models to find entities (location, price etc.) from a search query. *[Python, PyTorch]*

Robotics Research Assistant, *Robotic Embedded Systems Lab*, USC, Los Angeles, CA. Sep 2018 – April 2019

- Implementing state-of-the-art algorithms for a **Reinforcement Learning**(RL) framework named "garage". *[Tensorflow]*
- Built an object detection/manipulation system to conduct RL experiments with **Sawyer robot**. *[Python, ROS, MoveIt]*
- Built **simulation environments** to make Sawyer robot learn various tasks via demonstrations. [MuJoCo]
- Made **Docker** images to easily run RL algorithms in simulation and with real robots. [Rviz]

Robotics Research Assistant, *Cleveland State University*, Cleveland, OH. Aug 2016 – Aug 2017

- Built an **autonomous navigation system** and **ROS drivers** for Beam+ Robot. [*ROS, C++, Python, Rviz, Linux*].
- Reverse engineered Beam+ Robot's motor controller and integrated it with ROS to make it autonomous.

Software Engineer Intern, *TimeKeeping Systems Inc.*, Solon, Ohio. Jan 2016 – Jul 2018

- Developed **Android app** for recording wellbeing checks via NFC tags and barcodes (used in 40K correctional facilities)
- Implemented all layers from database and data access through services to view models and views. *[C#, SQLite]*
- Automated the process of deploying company's website with microsoft release management tools.

ACADEMIC PROJECTS

Generative model with Few-shot Meta-learning, USC, mentored by Dr. Joseph Lim Jan 2019 - May 2019

- Found a way to generate synthetic images with only a few training examples with meta learning (learning to learn).
  Tools Used: Python, Tensorflow | *Project URL: https://github.com/usc599resl/mlgm*

ShareSci: An Intelligent Full-Text Search Engine, CSU, mentored by Dr. Sunnie Chung Aug 2017 – May 2018

- Built a search engine for research papers to simplify the process of literature review.
- Trained deep learning models to build document search, and user recommendations for 1M+ documents.
- Won the Best Computer Science Capstone Project Award at CSU.
  Tools Used: Python, CNTK, NodeJS, MongoDB, Angular 2 | *Project URL: https://github.com/sharesci/sharesci*

Beam: An Autonomous Service Robot, *CSU*, mentored by Dr. Pooyan Fazli. Aug 2016 – Aug 2017

- Lead a team to convert Beam+ robot into an autonomous ROS compatible research platform.
- Developed autonomous charging system for Beam+ using AR markers.
- Published this work as a first-author conference paper at 2017 AAAI symposium, Virginia, USA.
  Tools Used: ROS, Python, C, Linux | *Project URL: https://github.com/utkarshjp7/beam_navigation*

AWARDS AND INVOLVEMENT

- USC Self Driving Car Competition Participant, 2019
- Active Member of Trojan Cricket Club, 2018-2019
- San Francisco Food Bank Volunteer, 2019
- Zillow Hack Week Judges Award, 2019
- CSU Best EECS Capstone Project Award, 2018
- Top 10 in NE ACM programming competition, 2016

PUBLICATIONS

[1] **Utkarsh Patel**, Emre Hatay, Mike D'Arcy, Ghazal Zand, and Pooyan Fazli. "Beam: A Collaborative Autonomous Mobile Service Robot". In: *Proceedings of the AAAI Fall Symposium on Artificial Intelligence for Human-Robot Interaction, AI-HRI 2017*. Arlington, Virginia, USA, 2017.