nickcharchut.xyz

NICHOLAS CHARCHUT

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(310) 702-6238

EDUCATION

Massachusetts Institute of Technology Cambridge, MA
Intended Master of Engineering in the Department of Electrical Engineering and Computer Science – 5.0/5.0 GPA *Class of 2020*

Planned Coursework – Algorithms for Inference, Statistical Learning Theory, Graphical Models, Bayesian Modeling and Inference

Massachusetts Institute of Technology (MIT) Cambridge, MA
Bachelor of Science in the Department of Electrical Engineering and Computer Science – 4.5/5.0 GPA *Class of 2019*

Relevant Coursework – Inference and Information Theory, Machine Learning, Software Construction OS Engineering, Machine Vision, Theoretical Statistics

EXPERIENCE

Zoox Foster City, CA
Perception Engineer – Intern *Summer 2019*
Designed a multimodal deep learning system to quickly and accurately predict vehicle and agent occupancy.
Experimented with various architectures for one-shot and multiple-timestep occupancy predictions given LIDAR data.

Capital One New York, NY
Data Engineer – Intern *Summer 2018*
Collaborated with developers company-wide to identify and solve integration issues of a real-time data pipeline.
Wrote intuitive interface for Angular developers, currently in production and maintained on the Capital One homepage.

IBM Cambridge, MA
Software Engineer, Computer Vision – Intern *Winter 2017-2018*
Enriched dataset for automated sports commentary ML model by tracking player location on and off screen.
Developed technique for labelling of players in 3D space using identification, pattern matching, and homography.

NASA Jet Propulsion Laboratory Pasadena, CA
Software Engineer, Computer Vision – Intern *Summer 2017*
Optimized image alignment process for virtual construction of the Martian landscape, using .NET framework.
Implemented PCA-SIFT to make feature matching more robust against various distortions between images.
Enacted Graph Transformation Matching (GTM) to enhance efficiency in filtering false-positive matches.

RESEARCH

Probabilistic Computing Project Cambridge, MA
Software Engineer, Probabilistic Programming – Researcher *Spring 2019 – Current*
Created minimal viable product of querying latent dimensionality of image data, using the Iris dataset.
Planning to enrich Bayesian database with the integration of images, allowing for effective prediction given sparse labels.

Computer Science and Artificial Intelligence Lab Cambridge, MA
Software Engineer, Autonomous Driving – Researcher *Summer 2017 – 2018*
Constructed a pipeline to infer and draw driven paths given image and LIDAR data from the KITTI dataset.
Architected a model capable of estimating epistemic and aleatoric uncertainty of a proposed path in real-time.

LEADERSHIP AND ACTIVITIES

Camp Kesem Cambridge, MA
Teen Counselor – Volunteer *Fall 2016 – Current*
Serve as a mentor for children affected by their parent's cancer during a one week, sleep-away summer camp.

MIT Men's Varsity Baseball Cambridge, MA
Pitcher *Fall 2015 – Spring 2019*
Provided mentorship to underclassmen on time management, work ethic, and general life skills.

SKILLS AND INTERESTS

Python • C++ / C# • Java / JS / Clojure • Inference • Probabilistic Programming • Poetry • Writing