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THOMAS DUDZIK

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EDUCATION

Massachusetts Institute of Technology (MIT) Cambridge, MA
M.Eng in Electrical Engineering & Computer Science – 5.0/5.0 GPA *Class of 2020*
S.B. in Computer Science & Engineering and in Mathematics (double major) – 4.9/5.0 GPA *Class of 2019*
Honor Societies: Eta Kappa Nu, Tau Beta Pi
Relevant Coursework: • Advanced Algorithms • Linear Algebra • Machine Learning • Computer Vision • OS Engineering • Probability • Theoretical Statistics • Stochastic Processes • Bayesian Inference • Information Theory

EXPERIENCE

Vatic Labs New York, NY
Quantitative Developer *Current*
Statistical analysis and high-performance software engineering for high-frequency trading.

Zoox Foster City, CA
Software Engineering Intern – Perception Team *Summer 2019*
Researched and developed novel computer vision approaches for classifying and understanding dynamic environments.
Implemented a semi-supervised convolutional network for monocular depth estimation aboard autonomous vehicles.

J.P. Morgan New York, NY
Markets Analyst Intern – FX E-Trading *Summer 2018*
Improved price discovery algorithm for G10 FX forwards via statistical lead/lag analysis of broker time-series data.
Developed a chatbot to identify broker quotes indicating live price updates using NLP and machine learning techniques.

Blockstream Mountain View, CA
Software Engineering Intern – Core Infrastructure Team *Summer 2017*
Developed an entirely new blockchain format focused on scalability, user privacy, and fungibility.
Implemented the protocol as an open-source Bitcoin sidechain, decreasing disk and network usage by tens of gigabytes.

Philips Cambridge, MA
Software Engineering Intern – Acute Care Solutions (ACS) Team *Summer 2016*
Prototyped various reinforcement and deep learning algorithms for use in behavior change applications/healthcare.
Researched machine learning methods to better adapt to individuals for improved efficacy and user engagement.

RESEARCH

MIT Biomimetic Robotics Lab Cambridge, MA
Graduate Researcher – Sangbae Kim's Lab *Fall 2019 – Spring 2020*
Developed a vision-based mapping and planning framework for the MIT Mini-Cheetah robotic platform.
Published a paper to IROS2020 as first author titled "Robust Autonomous Navigation of a Small-Scale Quadruped Robot in Real-World Environments."

Toyota-CSAIL Joint Research Center Cambridge, MA
Undergraduate Researcher – Daniella Rus' Lab *Fall 2017 – Spring 2018*
Created a novel verification system to evaluate autonomous driving capabilities of deep neural network architectures.
Implemented viewpoint transformation of camera frames to adjust car sensor inputs according to calculated error.

NASA Biologic Analog Science Associated with Lava Terrains (BASALT) Cambridge, MA
Undergraduate Researcher – MIT Man Vehicle Lab *Spring 2016*
Optimized features for the SEXTANT API to allow for planning of efficient extravehicular traverses.
Integrated resource-based path-optimization into the widely-utilized xGDS software using Python.

SKILLS & INTERESTS

Python • C/C++ • Java/JS • MATLAB • Git • TensorFlow/PyTorch • OpenCV • Blockchain/Solidity/Web3 • HFT

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English • Polish • Spanish • Rubik's Cubes • Cycling • Alto Saxophone • MIT Bitcoin Club