GABRIEL EMIR GOZUM

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EDUCATION

University of Wisconsin, Madison
College of Computer Sciences, M.S. 2022 - 2023
College of Engineering, B.S. Electrical Engineering and Computer Sciences 2017 - 2022

EXPERIENCE

Applied Intuition | Perception Engineer   Sep 2023 - Current

Anduril | Perception Intern   Jun 2022 - Aug 2022
· Developed embedded real-time single-object CV tracker for defense applications
· Improved upon prior optical flow based model by 23% (measured via HOTA metrics)
· Reduced labeller workload by 29x by implementing high-framerate auto-labelling pipeline

University of Wisconsin, Madison | Deep Learning Researcher   Aug 2021 - Jun 2022
· Research focus on out-of-distribution classification for object detectors under Dr. Sharon Li
· SOTA detection algorithms implemented in PyTorch and trained on large-scale GPU clusters

Tesla | Digital Signal Processing Intern   May 2021 - Aug 2021
· Engineered the de facto confidence metric for 5D point cloud data in Autopilot 4
· Updated DSP algorithms via SIMD hardware acceleration for multi-core processor
  with shared memory FPGA interaction

Tesla | Autopilot Sensing Intern   Jan 2020 - Aug 2020
· Developed SLAM based object recognition algorithm with $O(N)$ complexity compared to prior $O(N^2)$
· Large-scale data analysis for rain and blocked sensor detection

Wisconsin Racing FSAE | Firmware Lead   Jun 2019 - Aug 2021
· Battery management system firmware, driver level interaction to Kalman filter SOC modeling
· Designed modular battery electronic system utilizing the LTC6811 IC from schematic to PCB

PUBLICATIONS

Shaping Representations for Detecting Out-of-Distribution Objects   NeurIPS 2022
Xuefeng Du, Gabriel Gozum, Yifei Ming, Yixuan Li

Unknown-Aware Object Detection   CVPR 2022
Xuefeng Du, Xin Wang, Gabriel Gozum, Yixuan Li [**Poster Presentation**]

ACHIEVEMENTS

Licensed Amateur Radio Operator | Federal Communications Commission   Dec 2021
Technician class license: *KF0DAN*

Private Pilot | Federal Aviation Administration   Ongoing

SKILLS AND INTERESTS

Languages	C, C++, Python, MATLAB
Packages and Software	NumPy, OpenCV, PyTorch, ROS, Git, Docker
Personal	Running, Climbing, Algorithmic Trading, Chess, Poker