Tomer Sedan

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WORK EXPERIENCE

Software Engineer Intern, Snowflake **January 2025 - Present**

- Increasing robustness of data replication and disaster recovery systems by building new features for automatic dangling reference resolution within replicated databases.

Undergraduate Research Assistant, Stanford **May 2024 - December 2024**

- Worked in Professor Tsachy Weissman's lab at Stanford.
- Combined traditional video compression techniques (H.264) with modern ML-based image compression models using IDR-frame replacement, to obtain lower bitrates at high performance and visual fidelity.

Project Management Lead, PSU Advanced Vehicle Team **January 2024 - December 2024**

- Led the competition planning and execution efforts to build an L4 self-driving vehicle for SAE's AutoDrive Challenge II. Coordinated and managed work for over 50 students across 6 departments.
- Secured 2nd place autonomous route finish by building an object avoidance system using fused LiDAR.

Sensor Fusion Engineer, PSU Advanced Vehicle Team **August 2023 - January 2024**

- Stitched three camera and two LiDAR sensor feeds to obtain depth and velocity data for objects with a 150 degree field of view, up 67% from the original 90 degrees.

Data Science Intern, Wurl **May 2022 - August 2022**

- Developed a reporting framework, giving 100+ content partners data-driven insight into their advertising performance with Wurl across streamers, channels, and providers.
- Used Snowflake to pull queried data into Tableau, compiling and sending reports using AWS Lambda.

TECHNICAL SKILLS

Languages	C++, C, Python, Java, Bash, ARM & x86 ASM, Perl, Verilog, SQL, Javascript
Software & Tools	LLVM, AWS EC2 & Lambda, OpenCV, ONNX Runtime, Snowflake, TensorFlow, SDL2, ROS 2, Git, Linux, Cython, LaTeX
Knowledge Areas	Optimizing compilers, memory allocators, databases, autonomous vehicles, operating systems, embedded microcontrollers, computer vision, multithreaded systems

EDUCATION

The Pennsylvania State University **August 2021 - December 2024**

Bachelor of Science in Computer Science, Minors in Statistics and Computer Engineering *4.00 GPA*

Schreyer Honors College scholar; honors thesis in compute graph optimization accepted November 2024

Relevant courses: Compiler Construction, Computer Security, Algorithms, Computer Architecture, Microprocessors

RELEVANT PROJECTS

Optimizing LLVM Backed Compiler **January 2023 - August 2023**

- Built a bespoke compiled systems programming language in C++ using LLVM.
- Architected language features such as type coercion, intrinsics, and a just-in-time compilation mode.

Education-focused Cython Game Engine **October 2021 - February 2023**

- Led creation of an Entity-Component (ECS) game development library taught in academic curriculum.
- Designed rigid-body physics and a hardware accelerated 2D graphics model in C and Python using SDL.

AWARDS

Evan Pugh Scholar Award, The Pennsylvania State University **February 2024**