

Jake Frischmann

EDUCATION

University of Maryland, College Park

B.S., Computer Science, Applied Physics, Expected in 05/2028

- Dean's List 2025, 2026; GPA: 3.85
- Minor in Quantum Science and Engineering; Accelerated B.S./M.S. in Computer Science (2028–2029)
- AppDev Henson Day Initiative, Bitcamp Quantum Organizer, Robotics Terraformers Software

EXPERIENCE

FOUNDER & LEAD ENGINEER 02/2026 to Current

Orbit Infrastructure, College Park, MD

- Founded and shipped a live academic planning product used by 2,500+ students (450 accounts, 3,000+ schedules) across 5+ schools (built for and live; not institutional affiliation).
- Won Do Good Impact Summer Fellowship and secured \$5k+ Do Good funding for pilot development.
- Designed core systems in React/TypeScript and Supabase: degree-requirement evaluator for 274+ UMD majors, pre-requisite AST with substitutions, multi-school transcript PDF import, and a constraint-based four-year plan suggester.
- Built multi-institution catalog ingestion and term conflict modeling; shipped behind area-gated CI (pnpm/Turborepo, GitHub Actions, Vercel/Railway) with Postgres RLS multi-tenant auth.

SOFTWARE ENGINEER / PRODUCT CONSULTANT 2026 to Current

DAILE Learning, Inc., Remote

- Built interactive lesson components and slide-editing workflows so instructors can design complex lessons and learning evaluation without code (TypeScript/React, Node.js, Supabase).
- Advised product UX for classroom pilots (IA, progress tracking, analytics) and helped ship a more robust lesson editor for early adopters.

RESEARCH ASSISTANT 06/2026 to Current

Language, Experience, and Development (LEAD) Lab, College Park, MD

- Process preschool neuroimaging data (fNIRS/fMRI) in Python/MATLAB to remove motion artifacts and align signals to standard brain anatomy.
- Build ASR/NLP audio pipelines for day-long home recordings (speaker diarization, conversational turns) evaluating speech-language development and neural synchrony events; fuse multimodal classroom streams into BIDS-compliant datasets.

UNDERGRADUATE RESEARCHER 2026 to Current

UMD Neutral Buoyancy Lab, BioBOT for NASA, College Park, MD

- Developed VERTEX robot simulation software (Gazebo, ROS/ROS2, Python/C++); improved pre-run modeling of dramatic elevation changes and limited sensory inputs for dynamic locomotion.

RESEARCH ASSISTANT 04/2025 to 08/2025

Zheng Research Lab, Drexel University, Philadelphia, PA

- Designed tendon-driven SpiRob soft manipulators in SolidWorks and built GPU-accelerated cable/soft-body simulations in NVIDIA Isaac Gym for grasping irregular geometries.

PROJECTS

Henson Day AR Campus Events App

SwiftUI, RealityKit, SwiftData

- Building a production iOS AR scavenger hunt for UMD's Henson Day (20,000+ annual attendees) with RealityKit spatial anchors, persistent HUD, and CI across a 10+ engineer AppDev team.

BlokusDuo Deep RL Agents

Python, PyTorch, PPO, MCTS

- Led PGSS team building PPO + MCTS self-play agents with CNN board encodings (~85% win rate vs tuned heuristics over 18,000+ GPU games); a main author on a 20-page PGSS Journal paper.

Face Tracking Space Invaders, 1st Place Hackstoga 2023

Python, OpenCV, dlib

- Webcam dodge game with no keyboard or mouse: background subtraction turns your silhouette into a live collision mask; a dlib tracker locks onto your face and overlays a spaceship.

Maze Escape: Pathbound

C#, .NET MAUI

- Cross-platform game with 10+ maze generators and solvers (A*, BFS, Dijkstra); playable demo at jakefrischmann.me/MazeEscape.

SKILLS

- **Languages:** Python, TypeScript, JavaScript, C++, C#, Rust, Swift, SQL, R, MATLAB
- **ML & Data:** PyTorch, TensorFlow, RL (PPO/MCTS), OpenCV, ASR/NLP
- **Web & Cloud:** React, Node.js, Supabase/Postgres, REST, OAuth, Vercel, Railway
- **Systems:** ROS/ROS2, SolidWorks, Isaac Gym, SwiftUI/RealityKit, GitHub Actions

REFERENCES

Available upon request, including: Dr. Rachel Romeo (LEAD Lab, UMD); Dr. Yue (Luna) Zheng (Drexel, yz894@drexel.edu); Dr. Neil Simonetti (PGSS/CMU); Mollie Kaufer (UMD, mkaufer@umd.edu).