Muhammad Ali Hashar

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Education

Victoria Park CI — Toronto, Ontario
International Baccalaureate Diploma Programme — *Sep. 2024 – Present*

Experience

Software Engineering Intern — Jun. 2026 – Present
Magic Hour (YC W24) — Remote

- Turned any single product page into 9 distinct ad creatives across 3 product categories by building a URL-to-ad generator that scrapes product names, prices, images, and reviews from JSON-LD and OpenGraph tags (Python, BeautifulSoup, Krea 2).
- Expanded the Magic Hour API to 3 external platforms by building an n8n community node, an Apify Actor, and a Grok integration, letting developers run face swap, image, and video generation inside their own automated workflows.
- Shipped a masked crop-and-stitch head swap that runs in just 4 diffusion steps per image by benchmarking 9 open-source face swap model families (FLUX.2 Klein 4B, Qwen Image Edit, Krea 2, InSwapper) and editing only the head region (Python, Google Colab).

Software Developer — Aug. 2026 – Present
JAMHacks — Toronto, Ontario

- Owned 52% of all completed hacker portal tasks by shipping 12 features, including the grading queue, weighted question scoring, applicant ranking, and the final acceptance decision workflow (Next.js, Supabase, Drizzle ORM).
- Supported 200+ hackers across a 36-hour event by engineering a QR system that generates a unique code per hacker for meal scanning with duplicate detection, plus hardware checkout, returns, and outstanding loan tracking.

Research Intern — Apr. 2026 – Sep. 2026
University of Toronto — Hybrid

- Reached 97.7% IoU in simulated fire spread prediction by collaborating with master's students to design, simulate, and test autonomous UAV flight, perception, and mission planning systems for real-world outdoor deployments.
- Planned wildfire suppression missions for 12 targets in under 0.1 seconds with a 15% Pareto hypervolume gain over 50 generations by turning published UAV task planning research into reproducible optimization experiments.

Leadership

President — Jul. 2026 – Present
Ignition Hacks — Toronto, Ontario

- Running a free 48-hour hackathon for university and high school students by leading a 30+ person organizing team across 5 departments (development, design, sponsorship, logistics, marketing), from sponsor outreach to judging.
- Secured $4,500 in cash sponsorship from 4 sponsors, including CSE, Shopify, and Queen's University, and closed 18 in-kind partnerships with companies such as ElevenLabs, n8n, Render, and Kahoot.

Projects

Wildfire Drone, Fire Suppression Planner | GitHub

- Achieved 97.7% IoU and 98.8% F1 on held-out simulations by training a ConvLSTM fire spread model fed by a YOLO segmentation model that maps aerial fire and smoke detections onto a 100 by 100 cell grid (Python, PyTorch, YOLO).
- Planned UAV suppression missions for 12 targets in under 0.1 seconds and grew Pareto hypervolume by 15% over 50 generations by applying NSGA-II, then routing each mission around live fire cells with an incremental D* Lite planner.
- Exposed the model's synthetic-to-real gap on 1,234 NASA FIRMS satellite detections from a real Siberian wildfire, then closed it by building a Kaggle GPU pipeline to retrain on 607 real US wildfire events (WildfireSpreadTS).

Rouge, 2nd Place at JAMHacks 2026 | GitHub

- Placed 2nd at JAMHacks 2026 by building an AI Minecraft mod that teaches redstone engineering, turning chat requests like "build me a piston door" into step-by-step translucent holograms that players follow one block at a time.
- Validated every block placement with zero API calls by connecting LLMs to a verified build library checked locally, with 3 difficulty levels hiding 0%, 30%, or 50% of blocks per step (Java, Fabric API, OpenRouter).

Skills

Programming: Python, TypeScript, JavaScript, SQL, Java
Frameworks/Libraries: Next.js, React, Node.js, Express, FastAPI, PyTorch, Hugging Face, BeautifulSoup, Fabric API
Developer Tools/Databases: Git, PostgreSQL, Supabase, MongoDB, Firebase, Drizzle ORM, Google Cloud Platform, Google Colab, Kaggle, Mapbox GL, n8n, Apify
AI/ML: Diffusion Models, LoRA, YOLO, ConvLSTM, ComfyUI, ArcFace, NSGA-II, D* Lite