Denis Kaizer

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EDUCATION

HKUST (Hong Kong University of Science and Technology) Hong Kong · 2025 – 2028 (expected)
BEng in Computer Science · Full Tuition Scholarship (HKSAR Government)

Letovo School, IB Diploma 43 / 45 · Full Tuition Scholarship Moscow, Russia · 2022 – 2025
Independent research: proved original theorems in computational geometry (astroid curves, superellipses) *[Paper]*

COMPETITIONS & AWARDS

Mathematics: Winner, All-Siberian Open Olympiad 2021; 2× regional-stage winner, All-Russian Olympiad 2021–22; twice selected for the national Sirius maths programme, 2020–21
Programming: Regional-stage winner, All-Russian Olympiad in Informatics, 2022
Hackathons: 5× winner since 2020, incl. 1st place at Hackathon Barnaul and USGH; first win at age 13 ($1,500 investment)
WorldSkills Russia: 10th nationally of 300+ teams, VR & AR development Aug 2022

EXPERIENCE

YAO Research Group, HKUST, Undergraduate Researcher Hong Kong · Sep 2026 – Present

- **Turned touching virtual objects into a physical sensation** by building software that connects the lab's new electrotactile e-skin to self-developed controller-free VR experiences with real-time hand tracking (expected co-author)
- Run liquid-metal circuit experiments and help develop a new synthetic fabric with 3 PhD researchers *[Lab]*

GMCS, Machine Learning Intern Moscow, Russia · May – Jul 2024

- Built a hybrid recommendation engine for the cross-sell feed of **VkusVill**, a 2,500-store grocery chain, blending collaborative filtering on purchase history with live trend signals; **+4.6% clicks in a live A/B test**
- Combined kNN and matrix-factorisation models, tuning both for ranking quality under a real-time latency budget
- Added a sponsored-placement layer that injects suppliers' paid promotions into the ranked results

PROJECTS

Quantie, Algorithmic Trading System Hong Kong · Apr – May 2026

- Async Python system for Polymarket's 5-minute BTC markets: exchange, oracle and order-book feeds driving model, policy, execution and safety layers
- Fair value: closed-form Brownian-motion probability + monotone **LightGBM** correction on 35 microstructure features (order-flow imbalance, book depth, multi-horizon volatility, oracle–exchange basis), isotonic-calibrated
- **9% lower Brier score** than the Brownian-motion baseline on a time-ordered hold-out (6,000+ recorded windows)
- Quarter-Kelly sizing, fee-aware edge thresholds, a LinUCB bandit for take / quote / hold, circuit breakers; traded **live with $1,000** and **broke even**, tracing the gap to latency and order-book manipulation *[GitHub]*

InFlat, Co-founder & Lead Developer Hong Kong · Sep 2025 – Feb 2026

- Led development of a swipe-based rental app ("Tinder for homes") over 50k+ Hong Kong listings, with a recommender re-ranking in real time from each swipe plus collaborative filtering
- Secured **HKD 100,000 seed funding** from the HKUST Entrepreneurship Center *[Website]*

OurThing, Co-founder & Full-Stack Developer Hong Kong · Mar – Apr 2026

- Shipped a campus giveaways app (iOS & Android): NestJS / PostgreSQL backend, Socket.IO real-time feeds, Flutter *[App]*

Vibro-Acoustic Analyzer, Founder & Research Lead Moscow, Russia · Oct 2023 – May 2025

- Sensor device flagging industrial machine failures early via an FFT-based anomaly detector that learns each machine's frequency profile per operating mode; **4× cheaper** than commercial ($160 vs. $650)
- Tested 4 devices with industrial partner **Karfidov Lab**; **2nd place, Baltic Engineering Competition 2024** *[Report]*

Lowsy, Unity Developer · Steam puzzle game released at age 14, **450+ copies sold** Barnaul, Russia · Jun – Sep 2021

TEACHING & LEADERSHIP

HKUST: Python tutor for non-CS students; TA for 3D & AI workshops; lab system administrator Sep 2026 – Present
Virtual Box: led 9 volunteers (**ChildrenMustLive** charity) bringing my AR logic game to 200+ students Feb – Dec 2024

SKILLS & INTERESTS

Programming:	Proficient: Python, C++, C#, Java · Familiar: TypeScript / JavaScript, Kotlin, Dart
ML & Quant:	LightGBM, scikit-learn, NumPy, pandas, SciPy; calibration, contextual bandits, recommenders, FFT
Systems:	Linux, Git, Docker, Tailscale, asyncio, WebSockets, SQL, PostgreSQL, Redis, Firebase; NestJS, FastAPI, React, Flutter; OpenAI / Anthropic APIs
XR, 3D & Design:	Unity (Photon, Vuforia), Unreal Engine, Blender, Figma, Adobe Creative Suite
Coursework:	Competitive Cybersecurity (HKUST, CTF-based, 15th of 300); Deep Learning (Columbia, Coursera)
Languages:	English (full professional), Russian (native), French (basic)