

Igli Kristo

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EDUCATION

University of Zurich

Zurich, Switzerland

MSc Informatics – Major in Artificial Intelligence, Minor in Data Science

Sep 2025 – Present

- Relevant coursework: Advanced Topics in AI, Foundations of Data Science, Reinforcement Learning, Visual Algorithms for Mobile Robotics, Blockchain and Crypto Economics, Essentials in Text and Speech Processing, Effective Software Testing, How to Manage an IT Company, Seminar: Blockchain Programming, Computer Graphics, Enterprise Software

Royal Holloway, University of London

Egham, UK

BSc Computer Science

Sep 2020 – Jun 2024

EXPERIENCE

Solidity Developer

Jun 2025 – Present

FVC Digital

- Shipped a 4-contract DeFi stack (~1,180 lines of Solidity across **FVC**, **Sale**, **Vesting**, and **Staking**): token issuance, fixed-price tranche sale, Synthetix-style staking rewards, and per-investor vesting with cliffs and multiple schedules. Purchase and vesting state is transparent and auditable on-chain
- Built the sale path end-to-end: USDC, USDT, and ETH accepted with live Chainlink ETH/USD pricing, staleness checks, and automatic vesting creation for qualifying purchases via **Sale.sol** → **Vesting.sol**
- Hardened fund flows with Gnosis Safe multisig ownership, role-based access control (**MINTER_ROLE**, **BURNER_ROLE**), **ReentrancyGuard**, and **SafeERC20**; deployed and verified on Ethereum mainnet using Hardhat

React Developer

Jun 2024 – Sep 2024

TakeNow

London, UK

- Delivered a full-stack POS and online ordering platform from scratch within a 3-month contract, replacing a manual order workflow for a live food-service business
- Architected a Next.js SSR frontend with NextAuth session management and a Prisma + MySQL backend; reduced data access boilerplate by adopting tRPC for end-to-end type-safe API calls
- Structured the codebase as a monorepo with shared config packages, enabling independent deployment of the POS and online-ordering apps from a single repository

Data Science Intern

Aug 2023 – Sep 2023

Zappi

London, UK

- Reduced train RMSE by 15% (0.101 → 0.086) and test RMSE by 10% (0.115 → 0.104) on purchase-likelihood and product-advantage prediction models using XGBoost with engineered feature pipelines
- Identified the top predictive product attributes via SHAP value analysis, directly informing which concept signals the product team prioritised in survey design
- Delivered a reproducible end-to-end Python pipeline (pandas, scikit-learn, XGBoost) covering ingestion, feature engineering, training, and evaluation; versioned all experiments on GitHub for handoff

PROJECTS

Recursive Leverage in Yield-Bearing Stablecoins | *Python, XGBoost,*

Jun 2026 – Present

HDBSCAN, UMAP, SHAP, Solidity, Morpho Blue

- MSc project (UZH; Prof. Tessone / K. Gogol): daily panel of 23 large loopers of sUSDe, sUSDS and syrupUSDC on Aave v3 and Morpho Blue. Whales hold 93–97% of at-risk collateral. Built ingestion, labelling, and feature pipelines (LTV, carry spread, liquidation distance)
- HDBSCAN clustering with UMAP visualisation on 2,069 looper-days found four shared modes, not 23 wallet types: stale low leverage (LTV 0.54), active looping (8.1×), max-leverage hold (18.8×, stressed on 100% of days), and transition days. 12 wallets are pure; 11 switch
- XGBoost + SHAP: risk-rebalances predicted from 7-day LTV volatility (ROC-AUC 0.901); stressed days from collateral yield vs borrow rate (ROC-AUC 0.977, recall 0.90). PoC: **LeverageBot.sol** on Base (Morpho flashloan loop, Gnosis Safe)

Visual Odometry Pipeline | *Python, OpenCV, NumPy, SciPy, Matplotlib*

Nov 2025 – Jan 2026

- Built a monocular visual odometry pipeline using FAST corners, KLT tracking, PnP RANSAC, and multi-view triangulation, achieving 100% pose estimation success across 13,000+ frames on four datasets
- Fused 6-axis IMU data with visual estimates to recover metric scale ($4.2\times$ factor) and validated elevation gain against barometric altitude to within 1.2% error
- Collected a custom cablecar dataset in Switzerland and used gyroscope priors to maintain tracking through sustained rotation where pure vision failed

Enterprise Software: SAP & Dynamics 365 | *SAP Business ByDesign, Microsoft Dynamics 365, Dataverse, Python*

Spring 2026

- Implemented end-to-end Quote-to-Cash in SAP Business ByDesign: sales quote, order, MRP, procurement, goods receipt, delivery, invoicing, and payment; configured logistics areas and country-specific document numbering
- Extended Dynamics 365 Sales with custom Dataverse entities (Human, Category, Assignment) for a B2B crowd-logistics business case; built dashboards tracking leads, opportunities, and sales pipeline
- Wrote Python scripts to automate Dataverse data management (audit, backup, purge, seed phases) via the Dynamics 365 API; presented at Microsoft Zürich and Agilita Glatt Tower

DeFi Staking Pool on Base | *Solidity, Hardhat, Chainlink Automation, OpenZeppelin*

Feb 2026 – Mar 2026

- Built a multi-token staking pool for WETH, USDC, and EURC on Base; each deposit is forwarded into its corresponding Morpho MetaMorpho vault (one vault per token) to earn real on-chain yield while tracking each user's proportional vault share
- Replaced token-inflation rewards with yield-native accounting: implemented harvestable-yield detection, reward-per-share distribution, and partial/full unstake logic that preserves principal and accrued rewards by token
- Integrated a Chainlink Automation upkeep pipeline with a 24-hour harvest interval (`checkUpkeep/performUpkeep`) to harvest and distribute vault yield automatically across WETH, USDC, and EURC

Knowledge Graph QA Chatbot | *Python, RDFLib, SpaCy, SPARQL, NumPy, Ollama*

Sep 2025 – Dec 2025

- Built a conversational QA agent for the ATAI course that answers factual and multimedia questions over a Wikidata-derived knowledge graph using SPARQL, KG embeddings, and an LLM fallback
- Designed a multi-responder pipeline: SpaCy NER + regex entity extraction, relation embeddings for fuzzy matching, SPARQL for one-hop fact retrieval, and embedding-space nearest-neighbour movie recommendation
- Deployed via the Speakeasy platform; handled intent classification, entity disambiguation, image retrieval, and graceful degradation to a local Ollama LLM for out-of-graph queries

Yahtzee Reinforcement Learning Agent | *Python, Gymnasium, Stable-Baselines3, PyTorch*

Sep 2025 – Jan 2026

- Built a custom Yahtzee Gymnasium environment with action masking, shaped rewards, and a 57-dimensional observation space encoding dice, scorecard, and reroll state
- Trained a PPO agent with entropy regularisation over 150M+ timesteps, achieving a mean score of 194.6 across 1,000 evaluation episodes
- Derived a dynamic programming optimal value table via backward induction over all 8,192 scorecard subsets, yielding a theoretically optimal agent (expected score ≈ 254.6) that outperformed the PPO agent; used as a demonstration source for behaviour cloning experiments

septa | *React Native, Firebase, Expo, Figma*

2024

- Building a mobile application using React Native and Expo with Firebase backend (Firestore, Authentication, Analytics)
- Designed UI/UX flows in Figma prior to implementation

TECHNICAL SKILLS

Languages: Python, Java, JavaScript/TypeScript, Solidity, SQL, C++, PHP, HTML/CSS, Bash, $\text{\LaTeX}$

Frameworks & Libraries: Next.js, React, React Native, OpenCV, NumPy, pandas, scikit-learn, XGBoost, HDBSCAN, UMAP, SHAP, SciPy, Matplotlib, Prisma, tRPC, NextAuth, Hardhat, ethers.js, OpenZeppelin, RDFLib, SpaCy, Gymnasium, Stable-Baselines3

Tools: Git, Linux (Manjaro/Arch, Debian), Docker, MariaDB, MySQL, Firebase, Expo, Figma, SSH, Vim, Brownie, Ollama

Concepts: Computer Vision, Visual Odometry, Sensor Fusion, Machine Learning, Clustering, NLP, Knowledge Graphs, SPARQL, Reinforcement Learning, Blockchain/DeFi, Agile/Scrum, TDD

Human Languages: English (Native), Albanian (Fluent), German (A1.2)