

Ayush Popat

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SUMMARY

DeFi protocol researcher and engineer focused on automated market makers, liquidity provider protection, stablecoin design, and mechanism design on the Ethereum Virtual Machine (EVM). Selected for Uniswap Foundation Hook Incubator Cohort #9 and Blok Capital Cohort #1 with experience turning protocol research into Solidity implementations backed by Foundry fuzz and invariant testing.

EDUCATION

The LNM Institute of Information Technology
Bachelor of Technology in Computer Science & Engineering

Jaipur, Rajasthan
Aug 2023 - May 2027 (Expected)

RESEARCH EXPERIENCE

Uniswap Foundation Hook Incubator
Selected Builder

Apr 2026 - Present
Cohort #9

- Researching liquidity provider protection for tokenized securities with regime-aware dynamic fees, order-flow toxicity detection, gap-capture auctions, and circuit breakers for Uniswap v4 automated market maker pools.

Blok Capital
Protocol Research Contributor

Feb 2026 - Present
Cohort #1

- Researching upgradeable protocol architecture, governance, and automation for an onchain wealth management protocol using EIP-2535 Diamond Proxy facets, registry patterns, and Chainlink CRE orchestration as part of Blok Capital's inaugural cohort.

Yellow Network Acceleration Program
Selected Builder

Feb 2026 - Mar 2026

- Built Kartfall to mainnet and explored low-latency settlement and in-game market design using ERC-7824 state channels and onchain prediction markets.

PUBLICATION

- **InfluenceRank: A Trust-Propagated Metric for Measuring Scholarly Citation Influence** – Accepted at SmartCom 2026 in Springer LNNS; adapted EigenTrust to citation graphs with time decay and author-overlap penalty, then validated on 3,000+ papers and 150k+ citations.

PROJECTS

StockShield Protocol (*Uniswap v4 Hooks, Solidity, State Channels, ENS, Foundry*)

2026

- Designed a liquidity provider protection hook for tokenized securities with dynamic fees, order-flow toxicity detection, gap-capture auctions, and circuit breakers for discontinuous trading hours.

Overcollateralized Stablecoin (*Solidity, Foundry, OpenZeppelin*)

2025

- Built overcollateralized stablecoin smart contracts with auction-based liquidations, reentrancy protection, and comprehensive Foundry unit, fuzz, and invariant tests.

OhMySwarm (*LangGraph, Solidity, Aave V3, x402 USDC Payments, Next.js*)

2026

- Built an autonomous DeFi execution system combining onchain policy constraints, Aave V3 integration, and LangGraph-based decision workflows for multi-agent strategy execution.

SKILLS

Research Areas: Automated market makers, liquidity provider protection, stablecoin design, mechanism design, protocol governance, onchain market structure

Methods: Protocol design, hypothesis-driven analysis, smart contract testing, fuzz testing, invariant testing, adversarial reasoning

Technical: Solidity, Foundry, Hardhat, OpenZeppelin, Uniswap v4 Hooks, Chainlink, EIP-2535 Diamond Proxy, The Graph, TypeScript, SQL, PostgreSQL

Systems: Ethereum Virtual Machine (EVM), ERC-20, ERC-721, ERC-7824, Next.js, Node.js, Git, Docker, GitHub Actions

ACHIEVEMENTS

Uniswap Hook Incubator Cohort #9 selected builder (Apr 2026) | **Blok Capital Cohort #1** selected for inaugural cohort (2026) | **Monad Blitz** first place and \$500 prize (Aug 2025) | **SmartCom 2026** accepted publication in Springer LNNS