Dmitriy Vasilyuk

DATA SCIENTIST AND BLOCKCHAIN DEVELOPER

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github.com/reasonmethis 🖥

PROFESSIONAL SUMMARY

Transitioned from Ph.D. program in theoretical particle physics to successful 14+ year career as professional poker player and now full stack blockchain developer and algorithmic trader. Success in these endeavors due to battle-tested math, CS, and data science skills. Passion for science, philosophy, and critical thinking translates to well-thought-out solutions and writings.

SKILLS

Tech: Python, JavaScript, C++, Solidity, TypeScript, SQL, React, NumPy, Matplotlib, Pandas, Scikitlearn, NLTK, Flask, Web3, MUI

Fundamentals: theoretical physics, graduate level math, algorithms & data structures, stats, ML, game theory, cryptocurrency

Miscellaneous: poker, analytic philosophy, scientific skepticism, teaching, writing & editing, 5 languages, accessibility issues/tools

WORK EXPERIENCE

Blockchain Developer and Algo Trader – *Emeryville, CA*   *Aug 2021 – Present*

- Build **full stack decentralized app** (Solidity contract + React front end) and perpetual futures **trading bot** (on Solana)
- Build suite of time-series analysis and monitoring tools (Python data science stack) for **trading/investing** in DeFi projects

Professional Poker Player – *Emeryville, CA*   *May 2007 – Oct 2021*

- **Beat mid & high stakes** limit hold'em games with winrate 1.9BB/100 over last 1M hands on PokerStars and other sites
- Succeeded by building applications (with Python, C++ - see below) to help play, analyze strategies, alert to weaknesses

Co-founder of small software company Q-Wager – *El Cerrito, CA*   *Jun 2006 – Aug 2009*

- Built C++ app to beat online casinos by optimally auto-playing blackjack and collecting bonuses, **300+ paying customers**

PROJECTS

View publicly deployed projects: **Bet Czar** • **Crypto Analyzer** • **ReasonMeThis** • **VocabMeThis** • **Kristoshka**   View **GitHub**

Bet Czar *{React, TS, Solidity, Hardhat, MUI, Ethers} – decentralized application to manage and enforce bets on the blockchain*

- Focus on **security** and **UX**: guards against contract exploits, gas optimizations, clean responsive UI, user guidance & docs
- **Original:** many today's DeFi apps copy concept/contracts/UI logic from other projects – Bet Czar is "baked from scratch"

Crypto Trader *{Python: 3200 lines} – trading bots for Ethereum VM compatible blockchains and Solana*

- Solana bot (a) runs **market-making strategy** for perp futures; (b) places **+EV taker orders** based on orderbook and oracle
- EVM bot queries liquidity pool smart contracts and executes **on-chain swaps** based on predefined triggers, sends alerts

Poker Analyzer *{Python: 6800 lines} – game analysis suite: advanced filters & stats, detects players' weaknesses during game*

- **During play** parses game history, adds to **custom-made database**, updates all stats, **reports deviations** from reference
- Rich **query language** to filter player game data and **89GB** of Nash equilibrium strategy, generates reports & quizzes
- Monte-Carlo sims of equilibrium & non-equilibrium play to calculate EVs and find exploitative strategy adjustments

Crypto Analyzer *{Python: 4500 lines} –* **Telegram bot** *with a suite of tools for analyzing and monitoring crypto price data*

- Fetches live & historical prices, calculates autocorrelation, volatility, trends, impermanent loss, makes graphical reports
- Each user can set one's own parameters and create alerts to monitor crypto positions; public vs advanced features

VocabMeThis *{Python, Flask} – mobile-friendly* **web app** *to test user's vocabulary and teach new words at auto-adjusting level*

- 125000 words & definitions, with algorithm to **rank by difficulty** by constructing frequency dictionary from NLTK corpora
- Data cleaning algorithms to identity different forms of the same word, replace one-word definitions with proper ones

Game Manager *{C++: 7400 lines} –* *application to monitor & manage poker tables and play without needing mouse or keyboard*

- Analyzes mic sound, **classifies** it (*S* vs *SH* vs *AH* etc.), translates into required action on poker table, adapts to noise
- Monitors poker tables for special events (opponent came, good seat freed up, etc.), alerts and performs needed action

ReasonMeThis *{HTML, CSS, JavaScript} –* *philosophy, physics, and critical thinking blog at* **www.reasonmethis.com**

- Over 30 articles on philosophy of language, anthropic reasoning, multiverse, entropy, consciousness, and other topics
- Custom HTML and CSS, responsive **JavaScript animations** of physics and math concepts

EDUCATION

Master of Arts in Physics *– UC Berkeley*   *2006*

- Conducted research in string theory as part of Ph.D. program, switched careers before finishing Ph.D.
- Completed coursework in quantum field theory, general relativity, string theory, differentiable manifolds, Lie groups
- Received **Outstanding Graduate Student Instructor** award for excellence in teaching

Bachelor of Arts in Physics *– UC Berkeley*   *1999*

- Earned **2nd place** in **BAUPC '99**, Harvard-run physics competition