

## CHARLES GRANT BELFORD

2214-5 Eechigo-Yuzawa, Niigata, Japan 949-6101

Tel: +81(25)775-7277 Mobile: +81(80)4367-3210

[grantbelford@gmail.com](mailto:grantbelford@gmail.com)

TG: @CharlesBelford. Discord: CGB\_Happy. Github: grantbelford, unclecharliecrypto

---

## PROFILE

An MBA finance graduate with recent 4.5+yr focus on institutional digital asset cefi/defi proprietary trading, market-making, risk mgmt. & ML/algo R&D (python) across spot & derivatives.

## EDUCATION

**Master of Business Administration**, York University, Canada, 1996  
Finance concentration.

**Bachelor of Arts (Economics)**, Queen's University, Canada, 1992

## WORK EXPERIENCE

### Independent Contractor - Private

**Portfolio Manager.** Mar 2021 – Present

- Digital asset CeFi/DeFi prop trading across spot & derivatives for HNWI, family offices & funds.
- DeFi research includes MEV, DOV option auction/IV, CeFi/DeFi IV arb & LP IL hedging.
- Strat1. ETH Options IV Prop. Ann. Return (USD) 347.17%, Sharpe 1.89, Days Live 811 (31Jan24).
- Strat1 has outperformed ETH spot benchmark by 9.5x in USD annualized terms.
- Strat2. Market-Neutral. Ann. Return (USDC) 19.64%, Sharpe 2.05, Days Live 487 (31Jan24).

### Independent Contractor - Kairon Labs BV

**Trader.** Oct 2020 – Nov 2023

- Digital asset CeFi/DeFi market-making for altcoin projects.
- Machine-learning/algo R&D research (python) – both internal & client joint-ventures.
- Non-compete (1yr) relating to spot market-making for altcoin projects. No restrictions on derivatives market-making or proprietary trading.

### Self-study

Jan 2020 – Sep 2020

- Algorithmic trading strategy R&D for crypto in python.
- Machine-Learning (RNN-LSTM, Keras/Tensorflow/Scikit-learn) for crypto price predict, Unsupervised ML (k-means Clustering) for stat-arb, TCA, Reinforcement Learning/market microstructure analysis for market-making bot optimization, arbitrage (ccxt).
- Digital asset exchange hist data/order posting connectivity experience (Rest/API, Websocket).
- AWS-RDS MySQL, Arctic/MongoDB, Python, Git experience for market microstructure data.

### DARMA Capital

**Trader.** July 2019 – Dec 2019 (6-month contract)

- Digital Asset OTC prop trading (APAC hour coverage). Algorithmic trading strategy & digital asset derivatives R&D. CORA Singapore (Crypto OTC Roundtable Asia) involvement.
- Researched OTC digital asset option overwriting program and main contributor to option optimization/zero-cost financing program. Benchmarked OTC option vol skew v. exchange for collar initialization/monitoring.

**SBI Alpha Trading Co., Ltd. / Virtual Currencies Co., Ltd.**

**Chief Risk Management Officer.** May 2018 – April 2019

- Algo prop trading strategies (EM Asia equities, FX/Digital Asset & Energy/Power) R&D.
- Helped improve the market-making algorithms and alert infrastructure.
- Risk management for the digital asset exchange (market, counterparty credit, reg & op).
- Digital Asset VaR models & stress scenario analyses implementation.

**Nomura Securities Japan Ltd.**

**VP, Valuations Group (xVA-Counterparty & Traded Credit).** Oct 2012 – Oct 2016

- Managed IPV team responsible for the Counterparty Credit (xVA), Flow & Structured Credit Trading desks. Research into trading & regulatory capital counterparty credit risk models, xVA cross-gamma scenarios, xccy swap portfolio wrong-way risk, SPV Repack\_stochastic recovery approximation & SABR model adjustment for negative rates.

**International University of Japan**

**MBA Visiting Lecturer.** Dec 2011 – Sep 2012

Designed and instructed both institutional and MBA derivatives courses (3 semesters).

**UBS Securities Japan Ltd.**

**Director, Market Risk (Flow & Structured Credit).** Sep 2009 – Nov 2011

**WestLB AG Tokyo**

**Director, Head of Market Risk.** June 2007 – Dec 2008 (Branch closure)

**ABN Amro Securities (Japan) Ltd.**

**Associate Director, Market Risk (Flow & Structured Rates/FX).** April 2001- May 2007

**BROKERAGE CERTIFICATION**

**Japan:** JSDA Sales Exam, Series 2 (2005)

**Canada:** Commodity Supervisors' Exam (1996), Futures Exam (1995), Options Course (1994), Securities Course (1993), Conduct and Practices Handbook Exam (1993)

**PUBLIC RESEARCH EXAMPLES**

**Risk Management – VaR, SVAR, ES & Stress Scenarios**

<https://trading-data-analysis.pro/tools-for-cryptocurrency-portfolio-risk-management-3c0454d41649>  
<https://blog.kaironlabs.com/tools-for-cryptocurrency-portfolio-risk-management-part-2/>

**Financial Engineering - Crypto Perp Swap Mechanics**

<https://github.com/grantbelford/Crypto-Perp-Swap-Mechanics>

**Financial Engineering - DeFi Impermanent Gain Modelling**

<https://github.com/grantbelford/DEFI-Impermanent-Gain-Modelling>

**Machine-Learning - RNN-LSTM for digital asset price prediction**

<https://github.com/grantbelford/RNN-LSTM/tree/master>

**Machine Learning - Market Microstructure-Optimized Trade Execution using Reinforcement Learning**

<https://github.com/grantbelford/Market-Microstructure-Optimized-Trade-Execution-using-Reinforcement-Learning>

## Digital Asset Strategies Performance

31-Jan-24  
C.G. Belford

Please find following live trading strategy statistics along with commentary.

Strategy 1	ETH Options IV Prop	31-Jan-24
Platform	Deribit	
Days Live	811	
Return Since Inception (in ETH)	602.08%	
Annualized Return (in ETH)	140.40%	
Average Monthly Return (in ETH)	8.73%	
Return Since Inception (in USD)	2687.98%	
Annualized Return (in USD)	347.17%	
Average Monthly Return (in USD)	16.29%	
Annualized Benchmark Return (in USD)	36.64%	
Strategy Max Drawdown (% in USD)	-20.58%	
Benchmark Max Drawdown (% in USD)	-36.40%	
Sharpe (annualized, in ETH)	1.73	
Sharpe (annualized, in USD)	1.89	
StdDev. Monthly Annualized	103.54%	
Current AUM	USD 2,500,000	
Target AUM	USD 20,000,000+	
Scalable	Yes. In addition to Deribit Exchange there are OTC/custody solutions for counterparty/platform diversification.	
Leverage	Minimal (delta-hedging)	
Holding Period	Intraday to 3 weeks.	
<b>Notes</b>  Strategy base "currency" is ETH with a static ETH benchmark portfolio. "Alpha" is excess ETH generated over this static ETH benchmark portfolio. Both ETH & USD-equiv returns are shown.  Strategy positions around tradfi macro release dates, DOV auction dates, option expiries (max pain strikes), ETH idiosyncratic events & skew extremes. Typically at least 2 sub-strategies are running at any one time. Capital is typically equally allocated to each of the 5 substrategies with normally minimum IM/MM (margining) usage.  <b>Sub-strategy a.</b> Tradfi macro release (CPI/FOMC): Positioning for expected IV moves between CPI & FOMC release dates via calendar spread straddles. Holding Periods typically are 3-4 weeks. Returns typically range 3%-28% annualized in ETH terms.  <b>Sub-strategy b.</b> DOV auction dates: Positioning for expected OTM IV (Implied Volatility) moves ahead of weekly DeFi Digital Option Vault auctions. Holding Periods typically range from intraday to 3 days. Annualized returns range from -21% to 106% with a noted trend towards decreasing returns (likely due to DOV auction size reduction).  <b>Sub-strategy c.</b> Option expiries (max pain strikes): Positioning for spot ETH moves as market participants defend/attack max pain strikes. Holding Periods range from 2-5 days. Returns have reached 1479.01% annualized in ETH terms.  <b>Sub-strategy d.</b> 25 Delta Skew Mean Reversion: Positioning for mean-reversion when the 25D 1m skew gets to "extreme" levels. Holding Periods typically range for 2-3 weeks. A Skew Mean Reversion trade executed in Nov/Dec22 returned 1226% annualized in ETH terms. Recent return data n/a as this strategy has not been used recently due to subdued market skew levels.  <b>Sub-strategy e.</b> ETH Idiosyncratic events: positioning around Shanghai hard fork, BTC & ETH Spot ETF approval etc. Headline trades include positioning for Shanghai Fork downdraft (Apr23, Holding Period: 9 days, 44% "unannualized" return in ETH terms).  <b>Risk Management</b> Trend has been towards shorter holding periods & tighter Monthly Max Acceptable Drawdown - typically set to 20%. Portfolio takes both long & short option positions. Short option position holding periods are typically shorter (intraday to 3 days) & the portfolio is typically net long vega. The Portfolio Manager may use discretionary tail-risk hedges (put options or delta1 hedging) during times of market turbulence. In terms of operational risk the client typically has a Deribit Master Account & simply sets up and funds a Deribit subaccount for the Portfolio Manager (with trading privileges only). The Portfolio Manager is comfortable trading on the Deribit platform in light of their robust risk management systems & experienced staff gleaned from numerous PM/Deribit TG chats etc over the years. In terms of portfolio track record verification/due diligence the Portfolio Manager typically puts the Client in contact with the allocator for independent verification.  <b>Monthly PnL Settle</b> At month-end Client Deribit accounts are typically reset to start of month ETH balance after both the Client & Portfolio Manager are paid their pnl split based on info (Deribit EOM Equity snapshot) provided by the Portfolio Manager to the Client. PnL splits in ETH typically done via Metamask wallet transfer.		

Monthly Performance (in ETH)													YTD
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
2024	20.05%												20.05%
2023	6.81%	-1.54%	40.40%	44.10%	4.85%	20.65%	0.00%	-0.02%	14.02%	-2.33%	5.06%	6.17%	234.24%
2022	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.13%	-1.68%	0.00%	16.87%	0.00%	17.35%
2021	n/a	n/a	5.16%	-13.56%	10.59%	8.66%	-22.12%	65.96%	2.49%	3.03%	0.00%	n/a	49.09%

Monthly Performance (in USD equivalent)													YTD	Benchmark YTD
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
2024	20.19%												20.19%	0.11%
2023	41.62%	-0.30%	59.40%	48.94%	4.25%	24.47%	-3.97%	-11.44%	15.81%	6.19%	18.64%	17.98%	536.85%	90.53%
2022	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-17.20%	-13.91%	17.76%	-3.49%	-7.88%	-25.36%	-36.40%
2021	n/a	n/a	42.21%	25.28%	7.87%	-8.55%	-13.15%	124.66%	-10.23%	46.74%	8.04%	n/a	388.03%	227.33%

**Notes**

1. Strategy ran live 1Mar21-30Nov21 (client legal entity reorg) & was relaunched on 12Aug22 to current date.

Strategy 2	Market-Neutral	31-Jan-24
Platform	Various CEX/DEX spot & derivatives platforms	
Days Live	487	
Return Since Inception (in USDC)	27.02%	
Annualized Return (in USDC)	19.64%	
Average Monthly Return (in USDC)	1.54%	
Benchmark	tbd	
Strategy Max Monthly Drawdown (% in USDC)	-2.49%	
Benchmark Max Monthly Drawdown (% in USD)	tbd	
Sharpe Ratio (annualized, in USDC)	2.05	
StdDev. Monthly Annualized	2.60%	
Current AUM	< USDC 1,000,000	
Target AUM	USDC 2,500,000 - USD 5,000,000	
Scalable	Yes - deploy bots across additional pairs & CeFi/DeFi platforms.	
Leverage	n/a	
<b>Notes</b>		
* Market-neutral strategies include CEX/DEX Spot Arb, CEX/DEX IV Arb, CEX/CEX Cross-Exchange MM, etc. Return data includes Mar23 arbitrum airdrop received as part of CEX/DEX IV arb strategy DEX options platform usage. Decision to include made after noting same practice in use by another crypto market-neutral fund.		
* The main substrategy (CEX/CEX Cross-Exchange MM) in terms of AUM allocation has returned 20.04% since Jan-23 with a Sharpe Ratio of 2.81. Another substrategy (CEX/DEX IV arb - currently paused as noted below) returned 4.04% from Jan-23 to Oct-23 with a Sharpe Ratio of 2.00.		
* The Max Monthly drawdown (-2.49%) in Nov-22 is from an FTX JP/TraderJoe CEX/DEX arb strat which was the only strategy running at that time. Subsequent developments at FTX meant the strategy was discontinued. Funds from FTX JP were fully recovered in Mar-23. Additional allocations & strategies across new platforms began from Jan-23.		
* 30Nov23. CEX/DEX IV Arb strat paused from 6Oct23 as the relevant DEX platform is retooling its product offering and moving from v1->v2. Currently investigating DEX v2 product offering as well as researching other DEX platforms for trading opportunities.		

Monthly Performance (in USDC)													YTD	Benchmark YTD
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
2024	-0.69%												-0.69%	tbd
2023	0.02%	1.04%	5.07%	-0.14%	1.84%	1.16%	2.31%	-0.48%	0.85%	5.25%	1.44%	1.02%	21.01%	tbd
2022	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	8.40%	-2.49%	0.00%	5.71%	tbd

**Notes**

1. Research ongoing to find a suitable Crypto Market-Neutral Benchmark Index.