

Jethro Cao



jethrocao@gmail.com • +1 (647) 848-6320 • <https://github.com/jyscao> • <https://jyscao.xyz>

Professional Experience

Software Engineer @ JOICoin, 03/2023 — present

- To enhance security by eliminating password storage on JOICoin's own crypto-gaming platform, built auth system using Wix's JavaScript SDK to integrate its site-members backend as the source of truth
- Implemented the JOICoin protocol to gather proof-of-work (PoW) in the form of player activities in both webapp & WebGL (e.g. Unity) games, which are then used to disburse rewards to players

Backend Engineer @ Datatron Technologies, 04/2022 — 12/2022

- Implemented better notebooks UX workflow for data scientists by adding the auto-containerization microservice and deployed through Helm on Kubernetes, which increased leads, sales & retentions
- Worked in a 2-person team to migrate deployments & installations from custom methods to standard tooling like Terraform & Helm, which decreased AWS bill by 33% & improved development speed

Senior Software Engineer @ Titan Industries, 06/2020 — 04/2022

- Implemented 2FA & reports for Bitcoin mining stats (earnings, hash rates, reject rates, worker statuses, etc.) in the ASP.NET Core webapp, helping to double user growth in my first half year at the company
- Lead the 3-person BTC mining pool team in redesigning the inter-system communications flow to allow for extensions to the REST API, and more efficient requests by removing redundant data retrievals from upstream pool server's in-memory on-disk storage engine LMDB

Data Scientist @ London School of Economics, 11/2019 — 05/2020

- Worked with econophysics researchers to build a system using NumPy, SciPy, pandas & Matplotlib for the forecasting of financial markets using stochastic modeling and power law fitting, leading to the publication of 3 articles; project is public at <https://github.com/FinResearch/tail-risk>
- Concrete tasks included: implementing parallel computations via Python's multiprocessing library to reduce computation time of highly CPU-bound calculations by 80%; built data-cleaning and validation pipelines to automate the existing manual process and reduce human errors

Full Stack Web Developer @ Kanguru, 01/2018 — 10/2019

- Worked on pair of mortgage brokerage apps in 4-person team: broker app in CodeIgniter + jQuery, client app in Laravel + Vue.js; added core features: 2FA, dashboard summary stats, and in-app & email notifications; the UX improvements drove in-part the app's greater revenue growth YoY
- To remove operational difficulties and mitigate unsustainable storage costs of using EBS on EC2, lead migration of >1 million confidential user-uploaded files to AWS S3, thereby eliminating storage management pain-points, such as EC2 server crashes when EBS storage became full
- To replace outdated & un-upgradable VMware image, created standardized Vagrant dev box, providing conveniences customized to our team's needs: access to company VPN & MySQL instances hosted on RDS, and auto-configured Xdebug; reduced new developer set-up time from 1-3 days to <1 hr

Education & Miscellanies

- Education: Honours Bachelor of Science, University of Waterloo, 2015
- Linux Certifications: LFCS 2023 (ID: LF-bo5o53tk7z), RHCSA 2017 (ID: 170-176-820)
- Hobbies: reading, chess, calisthenics, traveling