Jethro Cao

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Professional Experience

Software Engineer @ JOICoin, 03/2023 — present

- To enhance security by eliminating password storage on JOICoin's own crypto-gaming plaform, 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 decreasd AWS bill by 33% & improved development speed

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

- Implemented 2FA & reports for 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 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 compuation 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