

GIOVANNI MAGOGA

ma9o.github.io

WORK EXPERIENCE

CTO, Hangoo

Dec 2020 - Apr 2021

Mobile app for meetups with social media based personality prediction. Developed MVP which helped obtaining 2k+ users and 700k\$ seed investment. • UI/UX with p2p WebRTC video calls, TTS and computer vision models (tfjs, Capacitor, React, Redux, rxjs, TypeScript, NextJS) • Internal dashboard for user management and analytics (Postgres, PostGraphile, PostGIS) • Strongly typed Phoenix API using state machines, genservers and channels (Elixir, OTP, GraphQL) • Location and personality based matching engine (Python, sqlalchemy, sklearn) • Infrastructure management (DigitalOcean, Grafana, Dokku) • Personality prediction and matching models R&D

Software Engineer, Passbase

Mar 2019 - Sep 2020

Joined as 1st full-time engineer and worked directly with the founding team (Stanford, Google, TUM) in growing the client base from 0 to 50+. Overtook previous CTO's responsibilities during the transition to new technical leadership. • Designed and implemented the first biometric authentication/authorization process (OpenID, OAuth, DIDs) • Refactored and optimized data model and internal GraphQL API (Postgres, SQL) • Benchmarking and deployment of MXNet models and maintenance of data pipelines (Redis, S3, tvm, PyTorch) • Refactored the MVP into SOA with strong typing, immutability and high test coverage (Rails, Sorbet, rspec) • Infrastructure management with Ansible and the Hashicorp stack (Nomad, Terraform, Consul, Vault) • Technical sales, customer support and QA of outsourced work • Interviewing, mentoring and onboarding of new team members

OTHER PROJECTS

Stonkify

Mag 2021 - Jul 2021

Frictionless securities market to incentivize discovery and funding of upcoming internet creators • Assembled a technical team through YC's SUS program • Built TypeScript app using a Nx monorepo with NestJS GraphQL API and NextJS React frontend • Built agent based simulation of the market (Python) • Designed Spring AMPQ microservice interface for 3rd party order book matching engine (Java, RabbitMQ) • Drafted an anonymization protocol for limitation of liability (Monero, I2P) • Undertook market research and user acquisition (30 trial signups)

Delegated authentication over TLS

Nov 2020

Drafted a delegated authentication protocol for identity providers that do not implement SAML/OpenID, requiring only TLS session tickets and AES bulk encryption • In depth study and experimentation with AES CTR mode, TLS 1.3 and homomorphic encryption • PoC using openSSL and Mozilla's nss and IBM's homenc libraries (C++)

Curation market for Brave ads network

Feb 2019

Substituted the random ads selection algorithm with a deterministic one based on a curation market • Modified and rebuilt Brave (Chromium) to natively interface with an Ethereum node (Ninja, gRPC, C++) • Implemented on-chain bonding curves with Bancor • Modified chrome extension to enable purchase and sale of tokens

Anonymized Aragon voting app

Jan 2019

Added ring signatures to the voting dApp to conceal the identity of voters. The signatures are computed off-chain and verified on-chain. • Ring signatures in the browser from Python library transpiled into C++ and compiled to WebAssembly • Optimized on-chain signature verification for the specific use case to reduce gas fees (Solidity)

EDUCATION

BSc CS, Georg August Universitaet Goettingen

Oct 2018 - Mar 2019

Exchange year, attended MSc courses • Parallel computing (CUDA, OpenMP, SLURM) • Information theory and statistics • Data science (PySpark, sklearn, seaborn, NetworkX)  • Category theory for programmers (Haskell)

BSc CS, Universita degli Studi di Trento

Sep 2016 - Sep 2018

MISC

Interests economics, history, linguistics, AI, cinema, gliding, rts **Languages** Italian, English, German, Spanish