

Molly Beach

SOFTWARE ENGINEER



<https://github.com/mollybeach>

<https://www.linkedin.com/in/mollybeach>



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EXPERIENCE



BLOCKMEDIA

MAY 2025 - PRESENT, REMOTE

PRINCIPAL SOFTWARE ENGINEER, GO RUST

- Developed protocol-level architecture for a custom Layer 1 blockchain integrating federated AI model coordination into consensus.
 - Designed transaction flows for secure model submission, validation, and on-chain reward attribution custom data types cryptographic verification..
 - Designed and optimized backend APIs with Express.js, Firebase Firestore, and GraphQL for scalable and secure data handling.
 - Contributed to cross-language infrastructure in Go and Rust, enhancing modular consensus logic and decentralized computation pathways.
 - Built testing pipelines and simulations for validator behavior, model convergence, and performance scoring in a distributed training environment.
 - Collaborated with engineers across AI, cryptography, and distributed systems to ensure protocol integrity and validator incentives.
- Go · Rust · PyTorch · Solidity · Docker · Hardhat · Federated Learning · Cryptography · EVM Forks · Protocol Design · AI



BRKT

JAN 2025 - APRIL 2025, REMOTE

SOFTWARE ENGINEER, WEB3

- Developed a blockchain-powered competitive gaming and prediction market platform with smart contract-based betting and prize distribution.
 - Built a responsive Web3 UI using Next.js, React, TypeScript, and integrated wallet connectivity with MetaMask and EVM-compatible wallets.
 - Designed and optimized backend APIs with Express.js, Firebase Firestore, and GraphQL for scalable and secure data handling.
 - Architected Solidity trustless betting mechanisms, ensuring fairness and automation of payouts. Integrated Ethers.js Aptos SDK for seamless smart contract interactions, enabling secure betting prize distribution.
- Next.js · React · TypeScript · Solidity · Ethereum · Aptos · Ethers.js · Express.js · Firebase Firestore · GraphQL · Web3 Integration



PARADES

JAN 2024 - DEC 2024, REMOTE

SOFTWARE ENGINEER, iOS

- Developed and enhanced a financial services app, enabling users to access cash, build credit, and manage debt.
 - Created key iOS features using Swift, focusing on intuitive UI/UX, scalability, and performance.
 - Collaborated with teams to ensure seamless integration and consistent design across app features.
- Swift · iOS Development · UI/UX Design · REST APIs · Performance Optimization · Agile Development · Cross-functional Collaboration

SOFTWARE ENGINEER, SCALA, SPECTRA

- Developed and maintained scalable backend services using Scala, leveraging functional programming for optimized data processing. Built RESTful APIs, integrated third-party services, and utilized Akka for distributed programming.
 - Collaborated on cloud-based deployments using AWS and GCP.
 - Participated in code reviews and worked with PostgreSQL and MongoDB for efficient data management. Contributed to Agile development processes.
- Scala · Functional Programming · RESTful APIs · Akka · AWS · GCP · PostgreSQL · MongoDB · Microservices · Agile Development



ACCENTURE

OCT 2022 - DEC 2023, REMOTE

BLOCKCHAIN METAVERSE REACT SOFTWARE ENGINEER

- Incubated new business value in Blockchain and Metaverse, focusing on innovative technologies, multiparty systems, and extended reality

GEN AI 3D GRAPHICS BOT CHAT APPLICATION

- Developed a web application combining AI chat and advanced graphics using React and Three.js. Implemented WebGL for 3D rendering, scene management, and custom shaders for graphical effects.
- Microsoft Azure · Astro · Three JS · Tailwind · Blender · Typescript · Javascript · Nanostores CanvasAPI

SKILLS

Programming Languages

- > Typescript
- > Javascript
- > Solidity
- > Python
- > Swift
- > Rust
- > Java
- > Golang
- > Scala
- > C++
- > R
- > JSON

- > Ruby

- > HTML, CSS, SCSS

Frontend Development

- > React, NodeJS
- > Vue
- > NextJS
- > Angular
- > D3.js
- > Tailwind
- > Bootstrap
- > Material UI
- > State Management
- > Redux
- > Zustand
- > D3.js

Backend Development & API Integration

- > NodeJS
- > Express.js
- > Django
- > FlaskAPI
- > GraphQL
- > REST APIs
- > Web Sockets

Authentication

- > OAuth
- > JWT
- > Firebase Auth

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AI PROMPTS BLOCKCHAIN BOT - SOFTWARE ENGINEER

- Developed an AI-powered bot to streamline purchase orders for logistics and accounting, integrating blockchain for secure, transparent transactions.

React · Azure · PowerAutomate · Swagger · Arrow API · Azure · Ethereum

CRYPTOPLATE TRACKER HYPERLEDGER TECHNOLOGIES - SOFTWARE ENGINEER

- Built a blockchain-based license plate tracking platform for the Illinois Tollway using Hyperledger Fabric and Besu for secure cross-jurisdiction verification.

- Developed consortium services and smart contract integrations in Go, plus high-performance Rust validation modules for secure transaction processing.

- Optimized system performance by analyzing OS scheduling, memory patterns, and driver-level constraints under high load.

- Enabled cross-network interoperability using Kaleido and Polygon Edge infrastructure.

Go · Rust · HyperledgerFabric · Besu · Polygon · Kaleido · GoQuorum · Indy

COMCAST COOKIE CONSENT - SOFTWARE DEVELOPER

- Centralized client credentials for 96 backend services by updating config files. Automated credential identification and updates with Python scripts. Re-deployed services after consolidating credentials for backend integration.

JavaScript · HTML · Python · Securi

TOKEN GATING DISCORD BOT API - SOFTWARE ENGINEER

- Developed a Discord bot to control server access for token holders using ERC-4337 account abstraction.

- Built backend verification services in Node.js and implemented high-performance chain Rust event listeners for realtime token validation.

- Stored token ownership data via serverless APIs and Moralis webhooks.

Solidity · React · Rust · Ethers · Discord API · AWS · Serverless ·

Account Abstraction · Docker

METaverse COOKIE NETWORK - SOFTWARE ENGINEER

- Blockchain Cookie traceability ownership interactivity provides analytics for non-fungible tokens interactions views likes comments purchases .

- Video game ecosystem networking in Unity gaming usage patterns.

· ReactTS · Metaverse · Solidity · Unity · Hardhat · TypeScript



PARADES

SEP 2021 - SEP 2022, REMOTE

PYTHON RUST BACKEND ENGINEER

- Built scalable Flask APIs for data pipelines and external integrations in high-traffic systems.

- Developed performance-critical modules in Rust for concurrent processing and data validation, improving throughput and latency.

- Automated background workflows with Celery and Redis, reducing server load and improving response times by 40%.

- Optimized PostgreSQL schemas, queries, and deployments using Docker and Jenkins CI/CD.

Python · Rust · Flask · PostgreSQL · Celery · Redis · Docker

REACT NATIVE TYPESCRIPT ENGINEER

- Built scalable web and mobile apps with React, React Native, and TypeScript.

- Implemented hooks, Zustand/Redux, and GraphQL to improve performance.

- Developed full-stack features across APIs, backend logic, and databases.

- Delivered secure, production-ready systems with auth, optimized queries, and cloud deployment.

React · TypeScript · GraphQL · Express · PostgreSQL · Zustand · Redux · OAuth · JWT · Docker · Heroku · Cloudflare

SOLIDITY WEB3 ENGINEER

- Collaborated with executive and engineering leadership to translate business requirements into scalable blockchain architecture and smart contract systems.

- Owned the full smart contract lifecycle including design, development, testing, deployment, and monitoring across EVM networks.

- Designed modular blockchain architectures integrating IPFS storage, Web3 APIs, and event-driven backend services.

- Delivered production smart contracts on schedule using secure development practices, automated testing, and CI/CD pipelines.

Databases & Data Management

> PostgreSQL

> SQL, MySQL

> MS SQL Server

> Firestore

> MongoDB

> Redis

> Docker

Data Science & Analytics

> Pandas

> Numpy

> Tensor Flow

> Matplotlib

Cloud, DevOps & Infrastructure

> AWS

> Microsoft Azure

> Vercel

> Netlify, Heroku

> Cloudflare

> GCP

> Docker

> Kubernetes

CI/CD

> Terraform

> Github Actions

> Jenkins

> Gitlab CI/CD

Serverless Computing

> Firebase Functions

> AWS Lambda

Blockchain & Web3

> Solidity

> Ethereum

> Aptos, Near, Arbitrum

> Solana

> Hardhat, Truffle

> Remix, Ganache, Foundry

> IPFS, Moralis,

> Chainlink, Arweave

Smart Contract Security

> Zero-knowledge Proofs

> Account Abstraction

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Solidity · TypeScript · JavaScript · Hardhat · Foundry · Node.js · React · Ethers.js · Web3 · IPFS · GraphQL · Docker · GitHub Actions

TREASURE

JAN 2020 - AUG 2021, REMOTE

SOLIDITY WEB3 DEVELOPER

- Designed decentralized smart contracts using OpenZeppelin standards (ERC-777/20/721/1155/1400) and deployed IPFS-backed NFT contracts using Pinata and Hashlips art engine.
- Developed full-stack dApps using React, TypeScript, Web3.js, and Ethers.js for DeFi protocol interaction and wallet connectivity.
- Built Rust-based off-chain services and tooling for transaction indexing, event decoding, and high-performance data parsing to support frontend analytics and contract state monitoring.
- Tested contract protocols on Rinkeby, Kovan, and Ropsten forks, and created Web3 automation scripts for transaction queries and verification using Etherscan APIs.

Solidity · Rust · React · Node.js · Hardhat · TypeScript · Web3

GOLANG RUST BLOCKCHAIN ENGINEER

- Developed decentralized smart contracts for asset registration and verification using Ethereum standards, deploying to local and public testnets (Ganache, Rinkeby), and integrated IPFS-backed metadata storage for decentralized asset data.
 - Built a high-performance dApp backend in Golang using go-ethereum, designing RESTful APIs for smart contract interaction and asset ownership tracking, with a lightweight React frontend.
 - Implemented Rust microservices for cryptographic verification, transaction validation, and concurrent data processing to improve backend throughput and reduce latency in blockchain event handling.
 - Deployed and tested contract protocols on Ethereum testnets, creating automated transaction pipelines and real-time verification script
- Golang · Rust · Solidity · React.js · Node.js · IPFS · Ethereum

PYTHON RUST SOLANA DEVELOPER

- Built decentralized voting and governance systems across Ethereum, BSC, and Solana, integrating IPFS for immutable proposal and result storage using Python.
 - Developed Solana programs in Rust for vote validation and state management, with Python services handling orchestration, signatures, and off-chain logic.
 - Created Flask APIs and automation scripts (Web3.py + Solana RPC) for state queries, transaction monitoring, and workflow execution.
 - Tested cross-chain functionality on Rinkeby, BSC Testnet, and Solana Devnet using Pytest and real-time explorer integrations.
- Python · Rust · Flask · Web3.py · IPFS · Ethereum

PROJECTS



CRYPTOGENE

MAR 2020 - DEC 2020

Developed a DApp/Web3JS application that converts raw DNA data from Ancestry.com into raymarching shader art, transformed into Ethereum-based NFTs. Implemented user login system deployed on Firebase.



SHADER PARK

SEPT 2019 - FEB 2020

Resolved front-end issues in VueJS collaborated with stakeholders to design & implement frontend modules Utilized GLSL for shader development.



CARD SWAPPER

SEPT 2017 - DEC 2019

Developed the first user-to-user trading app for gift cards, enabling instant buying, selling, and trading via mobile. The first-generation app was built entirely in Objective-C.

EDUCATION



BRAINSTATION

JAN 2020 - APR 2020, ONTARIO, CA

WEB DEVELOPMENT DIPLOMA

React, Javascript, SCSS, HTML5, SQL, Front End Responsive Design Worked with PMs, UX designers, Data Science, Digital Marketing Team on Projects.



UNIVERSITY OF WASHINGTON

SEP 2014 - AUG 2017, SEATTLE, WA

BACHELORS OF SCIENCE

Molecular Cellular Developmental Biology (MCDB) Computer Science Software Engineering Minor (CSSE)

Testing & QA

- > Jest
- > Mocha Chai
- > Playwright
- > Pytest
- > Hardhat, Foundry, Truffle

Game Development & Creative Coding

- > GLSL
- > ThreeJS
- > Shaderpark
- > Unity
- > Unreal Engine

Canvas API

System Design & Scalability

- > Distributed Systems
- > Microservices
- > Event Driven Architecture

Caching & Load Balancing

- > Redis,
- > Memcached
- > Nginx
- > Cloudflare

Program Management & Agile

- > Jira
- > Scrum,
- > Kanban
- > Jira
- > Linear
- > MS SQL Server

PostgreSQL

Message Queues & Event Driven Architecture

- > Apache Kafka
- > RabbitMQ, ZeroMQ
- > Redis Streams, NATS
- > Event Sourcing, CQRS
- > Webhooks
- > Pub/Sub Architecture
- > Google Pub/Sub, AWS, SNS/SQS