Molly Beach

SOFTWARE ENGINEER

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EXPERIENCE

BLOCKMEDIA
MAY 2025 - PRESENT, REMOTE

PRINCIPAL FULL-STACK SOFTWARE ENGINEER | GO, RUST, PYTHON

- 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 cross-language infrastructure in Go and Rust for modular consensus and distributed execution.
- 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

SENIOR FULL-STACK SOFTWARE ENGINEER

Selected Projects

BLOCKCHAIN PREDICTION PLATFORM | SOLIDITY, REACT

- 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

SWIPE-BASED PREDICTION MARKET ENGINE | REACT NATIVE, RUST

- Built swipe-driven betting interface with real-time outcome updates
- Implemented event streams powering live odds and bet activity
- Designed low-latency APIs for wager placement and settlement flows
- Built reward engine handling rankings, payouts, and streak logic
- Optimized mobile performance for high-frequency UI updates

React Native · Rust · WebSockets · Redis · PostgreSQL · Zustand · Reanimated · TypeScript · Expo · Node.js · GraphQL · gRPC · Docker · Nginx · Firebase · OAuth · JWT · CI/CD · Kubernetes

PARADES
JAN 2024 - DEC 2024, REMOTE

SENIOR FULL-STACK SOFTWARE ENGINEER

Selected Projects

FINANCIAL SERVICES MOBILE PLATFORM | 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

DISTRIBUTED DATA PLATFORM | SCALA

- 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.
- Performed code reviews and managed PostgreSQL and MongoDB data

Scala · Functional Programming · RESTful APIs · Akka · AWS · GCP · PostgreSQL · MongoDB · Microservices · Agile Development

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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ACCENTURE
OCT 2022 - DEC 2023, REMOTE

SOFTWARE ENGINEER FULL-STACK | METAVERSE, BLOCKCHAIN

Selected Projects

GENAI 3D CHAT APPLICATION | TYPESCRIPT
- Built AI apps combining chat systems with real-time graphics
- Implemented WebGL rendering pipelines, scene management, and shader effects using Three.js
- Designed modular frontend architecture supporting dynamic visual interaction

Microsoft Azure · Astro · Three JS · Tailwind · Blender · Typescript · Javascript · Nanostores CanvasAPI

AI PROCUREMENT AUTOMATION BOT | REACT
- 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

BLOCKCHAIN VERIFICATION PLATFORM | GO, RUST
- Built vehicle verification system using Hyperledger Fabric and Besu
- Built consortium services and smart-contract integrations in Go and Rust
- Optimized runtime performance by analyzing scheduling, memory, and system constraints under load
- Enabled cross-chain interoperability using Kaleido and Polygon Edge

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

ENTERPRISE CREDENTIAL INFRASTRUCTURE TOOLING | PYTHON
- Centralized credentials across 96 services via automated config audits
- Built scripts to detect drift, redeploy services, and standardize auth

JavaScript · HTML · Python · Securiti

TOKEN GATED ACCESS PLATFORM | RUST, SOLIDITY, REACT
- 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 INTERACTION ANALYTICS PLATFORM | REACT, TYPESCRIPT
- Developed blockchain-based analytics system tracking NFT ownership, interactions, and engagement metrics across virtual environments
- Built frontend visualization components displaying real-time activity including views, likes, comments, and transactions
- Integrated Unity event streams to analyze gameplay behavior

ReactTS · Metaverse · Solidity · Unity · Hardhat · TypeScript

PARADES
SEP 2021 - SEP 2022, REMOTE

SOFTWARE ENGINEER FULL-STACK

Selected Projects

DISTRIBUTED DATA PROCESSING PLATFORM | PYTHON, RUST
- Built scalable APIs for high-volume data systems
- Developed Rust modules for concurrent validation
- Improved throughput through async optimizations
- Delivered production infrastructure and monitoring

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

CROSS PLATFORM APPLICATION FRAMEWORK | REACT NATIVE, TYPESCRIPT
- Built scalable web and mobile apps with React and React Native
- Implemented state management and GraphQL data layers
- Developed full-stack features across APIs and databases
- Delivered secure production systems with auth and caching

React · TypeScript · GraphQL · Express · PostgreSQL · OAuth · JWT

MODULAR SMART CONTRACT INFRASTRUCTURE | SOLIDITY TYPESCRIPT
- Designed scalable blockchain architecture and modular contracts
- Managed full contract lifecycle from build to deployment
- Built event-driven integrations across APIs, IPFS, and clients
- Implemented automated tests and CI pipelines for releases

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

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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TREASURE
JAN 2020 - AUG 2021, REMOTE

SOFTWARE ENGINEER FULL-STACK

Selected Projects

DECENTRALIZED NFT CONTRACT PLATFORM | REACT, TYPESCRIPT
- Designed and deployed token standards using Solidity and OpenZeppelin (ERC-20, 721, 1155, 777, 1400)
- Built full-stack dApps with wallets and on-chain interactions
- Built automation scripts for transaction and contract monitoring

Solidity · React · TypeScript · Ethers.js · Web3.js · Hardhat · IPFS

DISTRIBUTED ASSET REGISTRATION SYSTEM | GO, RUST
- Built Golang services for asset tracking with go-ethereum
- Developed Rust microservices for cryptographic validation logic
- Designed REST APIs supporting real-time blockchain state queries
- Automated contract testing on Ganache and Rinkeby

Golang · Rust · Solidity · React.js · Node.js · IPFS · Ethereum

CROSS-CHAIN GOVERNANCE PLATFORM | SOLANA, PYTHON, RUST
- Built decentralized governance systems across Ethereum, BSC, and Solana
- Developed Rust programs for vote validation and state transitions
- Implemented Python services for signatures and off-chain coordination
- Built APIs and monitoring tools for governance execution

Python · Rust · Flask · Web3.py · IPFS · Ethereum

AWARDS

RAYLS HACKATHON
NOV, 18-19 2025, BUENOS AIRES, AREGENTINA

PRAXOS | 1ST PLACE WINNER
- Won 1st place for building AI-generated ERC-4626 vault engine for RWAs
- Designed compliant vault system integrating ERC-3643 + identity modules
- Built institutional RWA tokenization + allocation optimization engine

ETHGLOBAL CANNES
JUL 4-6, 2025, CANNES, FRANCE

LIVESTAKES | FINALIST
- Built real-time prediction market for live hackathon demos
- Implemented AI-driven market creation from livestream data
- Enabled instant payouts via Flow smart contracts

ETHGLOBAL BUENOS AIRES
NOV 21-23, 2025, BUENOS AIRES, ARGENTINA

HEDGEPOD | WORLD POOL PRIZE WINNER
- Built cross-chain AI DeFi agent managing yield across 8+ chains
- Implemented APR-aware routing + automated rebalancing logic
- Delivered gasless consumer UX for 23M+ World App users

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

Built Objective-C mobile app for instant gift card trading

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