Matt Ji



Programmer, Engineer, Consultant

Gutach im Breisgau, Baden-Wuerttemberg, DE

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Skills:

Web Development HTML CSS Javascript Next.js React Laravel HTMX

Backend & Database SQL PostgreSQL MySQL Django FastAPI Flask

Programming Languages Lua Erlang Java Kotlin Go Python C C++ Java Bash Nim

DevOps Kubernetes NixOS AWS Azure Google Cloud

Experience:

Bountystash ***Founder*** 2020-06-01 - 2025-08-19

• Build an algorithm for options trading and hedging on weather derivatives • Advised clients and acted as in-house Risk Manager for a top German energy trader • Build an immutable web templating language to make it invulnerable to scripting attacks • built risk-adjusted PPA trading models for energy companies • risk managed gas storage and gas swing trading models as a risk manager for EWE Trading • built apps for clients with 300M+ valuation land portfolios • architected a portfolio strategy for covered-call risk hedging strategy for clients • developed fibonacci binary tree algorithm for computational scientists • developed an LLM-based knowledge base software solution • audited bug bounty programs • learned and self-taught NixOS and Kubernetes

O3 Energy ***Asset Manager*** 2016-08-01 - 2020-06-01

• built financial models and managed 10 MW solar PV power plants • head of asset management of a 100M+ portfolio • scoped and due diligenced O&M projects as backup to project managers • document and managed software and IT admin for company and subsidiaries • interfaced with clients, banks and deal brokers to handle a dozen 4-5 million dollar projects • analyzed corporate liability risks and developed an internal risk management framework • designed a mobile app for enterprise employees to scout new project opportunities • managed an international team and built the incentive structure to a real-time financial model • scoped and due diligenced O&M projects as backup to project managers • Build an algorithm for options trading and hedging on weather derivatives

Smart Energy 360 ***Director of Sustainability*** 2015-08-01 - 2016-08-01

• managed a pipeline of 100M+ projects • customer service and support for clients • devised sustainability sales and marketing strategies • advised clients on cybersecurity software and risk management

Fraunhofer ISE ***Hi-Wi*** 2012-03-01 - 2012-09-01

• conducted research on heliostat imperfections using interferometry • C++ for application software for interfacing with equipment • Python for analysis and 3D geometry • Mathematica for geometry matrices verification

Halliburton ***Associate Technical Professional*** 2010-06-01 - 2011-09-01

• implemented new excel spreadsheets for the engineering department • managed two frack crews 3M+/week • worked 12 hours a day shifts in the field • troubleshooted chemicals and equipment on site • led safety training for crew members • worked on experimental projects using novel technologies developed by engineering

Projects:

Risk Calculation Engine (Swirl Engine) Go Nushell Awk Green's Theorem Risk Analysis NixOS Polyglot Programming

• Architected a 'Swirl Engine' using Green's Theorem to calculate polygon areas from random geometric data. • Implemented a Go-based shape fuzzer generating stochastic polygons to stress-test the calculation engine. • Orchestrated the pipeline using Nushell and Awk, bypassing compiler limitations for high-performance math. • Containerized the environment using Nix Flakes for reproducible Go 1.16+ development.

Master's Thesis Artificial Neural Networks Fractal Geometry Vector Analysis

• Developed a novel method for time-cross-correlating wind velocity data that yields a +70% accuracy • Trained neural network models for long-term weather data to optimize grid economics of intermittent solar and wind resources

Postgraduate Renewable Energy Hydrogen Cells Solar

• Analyzed hydrogen production and storage projects using RETScreen • Post-graduate research in renewable energy • Solar, Wind, Geothermal, and Bioenergy modules completed under the

Education:

University of Freiburg ***Master of Science*** 2011-11-01 - 2014-02-01

• Intermittent Renewable Energy and Weather Patterns Analyzed through Artificial Neural Networks

Colorado School of Mines ***Bachelor of Science*** 2006-08-01 - 2010-05-15

• McBride Honors Program in Public Policy • Economics

Language:

• English: Native speaker • German: Fluent