

# Mike Makuch

Principal Software Engineer | Architect | Technical Leader | Fractional CTO | Coder Austin, TX

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## Career Summary

Accomplished Principal Software Engineer and Architect specializing in scalable, production-grade systems, committed to lifelong learning and continuous professional development. For the past 7 years, I have led backend architecture, microservices design, and cloud/on-premises infrastructure implementation for IoT, SCADA, and SaaS platforms through long-term engagements, often serving as fractional CTO.

Hands-on technical leader who combines deep backend architecture expertise (microservices, cloud infrastructure) with strong leadership, mentoring, and communication skills. I both develop and lead teams across the full stack, with focus on backend and infrastructure. Excel at building maintainable software, fostering teamwork, and influencing technical direction through clear technical communication with both technical and non-technical stakeholders. Passionate about efficient, scalable systems and keeping simple things simple and hard things possible.

Seeking a Principal Engineer, CTO, or VP of Engineering role where I can maximize value through technical leadership, architecture, and hands-on development in a challenging and collaborative environment.

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## Areas of Expertise

- **Languages & Frameworks:** Node.js, Python, C/C++, JavaScript, PHP, SQL, Bash, master of command line
  - **Cloud & DevOps:** AWS, RDS, IoT, SQS, ECS, CloudFormation, Infrastructure as Code, Docker, CI/CD pipelines
  - **Architecture & API:** RESTful API design, Microservices, Distributed Systems, Event-driven architecture
  - **Domains:** IoT, SCADA, SaaS, Embedded Systems, E-commerce
  - **Quality & Testing:** Automated testing, 100% code coverage advocacy, Test-driven development, QA automation
  - **Leadership:** Team building, mentoring, technical communication, stakeholder management, Agile
  - **AI-Assisted Development:** AI-assisted development, AI pair programming, code review and troubleshooting via LLM, ~5x productivity multiplier
  - **Other:** MySQL, PostgreSQL, NoSQL, Modbus, Twilio, Stripe, Braintree
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## Professional Experience

### Principal Software Engineer | Architect | Technical Leader

2017–Present Providing ongoing software architecture, backend engineering, and DevOps leadership to multiple organizations through long-term engagements. Focused on scalable system design, distributed systems, and IoT infrastructure.

#### SiguruAI — Principal Engineer (2025–Present)

- <https://siguru.ai/>

- First engineer hired to scale multi-tenant AI-powered Medical Legal Review SaaS platform for pharmaceutical regulatory compliance from proof-of-concept to production.
- Designed and built complete authentication system including MFA, authenticator app integration, email verification, and admin-approved self-registration.
- Architected and led buildout of Python microservices backend supporting content compliance workflows and AI-driven review automation.
- Built React frontend and Chrome extension enabling pharma teams to streamline MLR review processes.
- Advised founder on engineering team practices including Agile workflow, GitHub/Jira management, and development processes around the SDLC.
- Primary full-time engineer and technical lead across a team of six developers.
- Technologies: Python, React, JavaScript, Chrome Extensions, Microservices.

#### **Talent Atlas — Principal Engineer (2023–2025)**

- <https://TalentAtlas.AI>
- Designed and built AI-powered recruiting platform utilizing OpenAI LLMs for executive placement and candidate evaluation.
- Developed automated resume screening, candidate profile enrichment, and intelligent matching algorithms.
- Architected full-stack system including backend microservices, data processing pipelines, and API integrations.
- Key features: AI-generated interview questions, candidate visualization, compensation data integration, and automated outreach templates.
- Platform reduces recruiter workload from months to hours by automating candidate identification and quality assessment.
- Company currently seeking early adopters and angel funding.
- Technologies: Node.js, Angular, AWS, OpenAI API.

#### **Safe Defend — Principal Engineer (2022–Present)**

- <https://safedefend.com/>
- Hired to resolve critical firmware hang. Problem solved.
- Asked to stay on to address other critical system software problems, inefficiencies, performance bottlenecks.
- Over time we have improved architecture and robustness, resolved bottlenecks, improved reliability.
- Technologies: Node.js, PHP, Linux, MQTT, Mosquitto, AWS IoT.

#### **Delta Thermal Inc. — Principal Architect / Engineer (2022–2024)**

- <https://www.deltathermalinc.com/>
- Designed and implemented AWS IoT data collection and monitoring platform, for both cloud and on premises deployments.
- Built full AWS CloudFormation infrastructure and managed embedded/IoT data pipelines.
- Recruited and mentored 4-person development team to build the application and infrastructure.
- Technologies: Node.js, Python, AWS ECS, SQS, IoT, CloudFormation, RabbitMQ, CodePipeline.

#### **Basin SCADA — Principal Software Engineer (2020–2022)**

- Developed integration servers bringing field IoT data into cloud SCADA operations.
- Built Modbus Edge server enabling data aggregation and control.
- Technologies: Node.js, Modbus, AWS.

#### **EveryMarketMedia — Principal Engineer (2019–2023)**

- Led full-stack development of EMM Query, a Node/React web platform leveraging BigQuery.
- Responsible for all backend, data integration, and performance tuning.

- Technologies: Node.js, React, BigQuery, Google Cloud.

#### **AmPLY Power — Principal Engineer (2019–2022)**

- <https://amplypower.com>
- Designed and implemented SCADA/IoT system and cost-optimized scheduler controlling EV bus chargers.
- Built and deployed in AWS; co-inventor of AmPLY's patented control algorithm ([US20210086647A1](#)).
- AmPLYPower subsequently purchased by BP.
- Technologies: Node.js, AWS ECS, SQS, IoT, CodePipeline, OCPP, CloudFormation, GPS/geospatial.

#### **FoodRevolution.org — Principal Software Engineer (2017–2018)**

- <https://foodrevolution.org>
- Developed custom ordering and payment system and CMS in Node.js and AWS.
- Technologies: Node.js, AWS, Sequelize, Braintree.

**Additional Clients:** for many others, providing architecture advice, performance troubleshooting, fixes for SaaS and IoT platforms, both in cloud and on premises.

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#### **myRollCall — CTO (2016)**

- Led development team and product launch for SAAS volunteer/event platform.
- Designed ticketing, donation, and custodial banking features.
- Technologies: Node.js, Angular, MySQL, AWS.

#### **Kixer — Principal Software Engineer (2015)**

- Enhanced and maintained display ad serving platform utilizing big data and ML.
- Technologies: AWS EB, Apache Kafka, Spark, C++.

#### **Text4Takeout — CoFounder / Software Engineer (2014)**

- Created SMS-based ordering platform for food trucks using Twilio and Bandwidth.
- Technologies: AWS, PHP, Paypal payment processing and order management.

#### **ResortScoop — Co-Founder / CTO (2013)**

- Researched market and led prototype development for vacation activity booking SaaS.
- Technologies: Drupal, LAMP, MEAN, AWS, Twilio, Stripe, PayPal.

#### **Student — Returned to University (2011-2012)**

- Returned to University of Texas at Austin, completed Bachelor of Science in Computer Science.

#### **Good Capital — Partner, Software Engineer (2007–2010)**

- Co-founded investment/trading firm as one of three partners.
- Designed and developed backtesting application for simulating trading algorithms against historical market data.
- Implemented automated trading system for futures day trading strategies.
- Multi-threaded architecture processed parameter iterations across historical tick data.
- Key features: performance metrics, drawdown analysis, correlation analysis, trade visualization.
- Technologies: AWS EC2, MS Visual C++, Windows desktop application, multi-threaded processing.

#### **Advanced Reality Inc. — Angel Investor / Advisory Board Member (2000–2005)**

- Early investor and advisor for enterprise collaboration software startup (Houston, TX).
- Company developed Presence-AR: real-time, peer-to-peer platform for adding synchronous collaboration to applications.

- data-centric architecture enabled cross-platform, secure collaboration without modifying applications.
- Participated in strategic planning and technology evaluation for angel-funded venture.
- Technologies: Java-based, XML, SOAP, P2P networking.

### **Muzikbrowser — Founder / Sole Developer (2001–2003)**

- <https://muzikbrowser.com>
- Designed and developed desktop digital music player optimized for media center and TV/remote control environments.
- Custom hierarchical browsing interface designed to scale for large music collections (hundreds of users at peak).
- Support for multiple audio formats (MP3, WMA, OGG, FLAC), tag editing, and customizable TV-friendly UI.
- Built custom database engine for music library management.
- Technologies: MS Visual C++, Windows desktop application, custom database.

### **Vignette Corporation — Principal Engineer (1996–2000)**

- [https://en.wikipedia.org/wiki/Vignette\\_Corporation](https://en.wikipedia.org/wiki/Vignette_Corporation)
- Early startup employee (#7) for enterprise web content management system.
- Designed and implemented backend services in C++/Java, employed client/server, Service-Oriented Architecture.
- Inventor, patented personalization technology ([US6330592B1](#)).
- Contributed through IPO and scaling to 1,500+ employees.
- The software created survives today as OpenText.

### **ABM Data Systems — Development Manager / Customer Support Manager / Software Engineer (1985–1996)**

- Managed 25-person development and support teams developing & supporting central station alarm automation software.
- Built core software on mini computers running PICK OS.
- Early exposure to customer support informed lifetime focus on maintainability of software.

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## **Education**

**Bachelor of Science, Computer Science — The University of Texas at Austin** UT Austin CS Department consistently ranks top 10 nationally and globally.

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## **Patents**

- **Real-time Electric Vehicle Fleet Management:** [US20210086647A1](#)
  - **Personalized Content Delivery System:** [US6330592B1](#)
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## **Professional Links**

- **Upwork Profile:** [www.upwork.com/fl/1mikemakuch](http://www.upwork.com/fl/1mikemakuch)
  - **Top 1% Expert Vetted:** [1mikemakuch.com/UpworkExpertVetted](http://1mikemakuch.com/UpworkExpertVetted)
  - **GitHub:** [github.com/1MikeMakuch/README](https://github.com/1MikeMakuch/README)
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## **Community Involvement**

Mentor with MentorNet.org (2012-2018), mentoring computer science students in career development and technical skills.

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## **Interests**

Member of Mensa and Intertel. Enjoy triathlon training and scuba travel.

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*March 2026*