

ZACHARY DEGEORGE

Principal Software, Systems & Product Engineer | Full-Stack / Cloud / Mobile / Embedded Safety

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University of Michigan Difference Maker: michigandifferencemakers.com/zach_degeorge

EXECUTIVE PROFILE

Principal-level software and systems engineer with 10+ years across cloud-native product development, full-stack web/mobile platforms, embedded automotive safety software, and entrepreneurial R&D. Builds production GraphQL/Node APIs, React/React Native/Angular frontends, AWS deployment pipelines, native mobile applications, embedded C/RTOS/CAN systems, and AI-assisted engineering workflows. Founder of ZIMDEGOR LLC and AS3SIX, combining secure software, cloud, automation, AI, product architecture, and application-specific safety/security technology with senior BOSCH ISO 26262 ASIL D experience and proven delivery for large distributed customer networks.

IMPACT SNAPSHOT

Company building: Founder of ZIMDEGOR LLC and AS3SIX; focused on secure software, cloud, automation, AI workflows, systems engineering, and application-specific safety/security technology.

Product engineering: Built commercial native iOS field-service automation platform with 50,000+ lines of Swift plus Node/Express/MongoDB/AWS backend.

R&D and IP: USPTO patent-pending electromagnet work prepared pro se and accepted through intake requirements.

Scale delivery: Lead developer for BIGGBY online ordering marketplace supporting mobile ordering for 300+ regional cafes and franchise operations.

Automotive safety: Senior BOSCH embedded engineer for ISO 26262 ASIL D electric power steering software on Ford/Lincoln CD-4 platform vehicles.

Academic distinction: Dual BSE degrees in Electrical and Computer Engineering, highest distinction, Tau Beta Pi, Eta Kappa Nu, U-M Difference Maker, CECS Senior Design Champion.

CORE ENGINEERING FOCUS

Full-stack / cloud: TypeScript, Node.js, Express, GraphQL/Apollo, React, Angular, MySQL, MongoDB, AWS, CI/CD, Docker, static hosting, API design.

Safety / embedded: Embedded C/C++, RTOS, ISO 26262 ASIL D, CAN, UDS, CAPL, HIL, Renesas microcontrollers, memory maps, bootloaders, diagnostic tooling.

Web3 / data infrastructure: Self-custody wallet architecture, Solana/Jupiter/Helius integrations, dApp approval flows, token/NFT data providers, Node/MongoDB backend state.

Mobile / product: React Native, Expo, Swift/iOS, Android Java/Kotlin, UI/UX, onboarding flows, wallet-style security, mobile app lifecycle, release planning.

AI / automation: ChatGPT, Codex-style workflows, AI-assisted prototyping, technical documentation, product specs, workflow automation, Google Workspace automation.

Business / consulting: B2B technology services, secure cloud deployment, systems engineering, cybersecurity-adjacent engineering, procurement/vendor readiness, SEO/launch operations.

PROFESSIONAL EXPERIENCE

ZIMDEGOR LLC | zimdegorg.com | Michigan / Remote

June 2026 - Present

Founder / Principal Engineer

- Founded Michigan member-managed technology company focused on secure software, cloud, automation, AI workflow integration, systems engineering, and application-specific safety/security consultations and solutions for businesses of all sizes.
- Defined the company foundation: service portfolio, domain/website, professional contact workflow, client onboarding/calendar hooks, S3/CloudFront deployment model, security headers, sitemap/robots, launch checklist, and directory/SEO strategy.
- Positioning ZIMDEGOR as a B2B engineering partner for custom websites, web/mobile apps, backend APIs, AWS/cloud deployment, automation, AI workflow integration, technical consulting, systems engineering, and cybersecurity-adjacent engineering.
- Building proof-of-work and go-to-market stack across GitHub, technical content, YouTube/demo assets, B2B service directories, software/product listings, procurement/vendor portals, and structured search/AI discoverability.

Technologies: Node, HTML/CSS/JavaScript, AWS S3, CloudFront, Route 53, security headers, static-site deployment, Google Calendar appointment hooks, SEO/schema strategy, business operations, B2B services.

Sudo - ZIMDEGOR LLC Product Venture | Michigan / Remote

June 2026 - Present

Product Architect / Lead Engineer

- Developing Android-first Expo/React Native digital-asset command center with self-custody wallet, live wallet monitoring, Jupiter swap execution, Helius RPC support, session logging, and in-app/session-widget telemetry; iOS follow-on positioned after Android launch.
- Designed product surfaces across Wallet, Swap, NFTs, dApps, Predictions, Bitcoin, Trader, Strategy, Docs, and Settings as a coherent metro-style product system rather than disconnected screens.
- Implementing wallet and security flows for create/import, wallet management, QR receive/send, recipient validation, biometric/PIN access, local signing, transaction review, logging hygiene, dApp origin checks, explicit approvals, and no auto-signing.
- Building market/trading infrastructure around Jupiter quotes/swaps/price APIs, token-universe initialization, Market Physix momentum/velocity/volatility/liquidity telemetry, Trader beta session metrics, checkpointing/finalization, foreground/background coordination, wake-lock policy, and widget status tracking.
- Architecting backend/provider layer with Node and MongoDB status/altcoin endpoints, provider proxies, token-state persistence, Market Physix snapshots, backups/restores, and provider integrations/scaffolds across Helius, Jupiter, CoinGecko, CoinMarketCap, Birdeye, Magic Eden, Polymarket, deBridge/Mayan, mempool/Blockstream, Unisat/Ordscan/Maestro.
- Built S3/CloudFront-ready launch site with responsive product narrative, animated phone/mockup sections, Market Physix radar visualization, wishlist/contact fallback, deployment scripts, manifest/social card/robots/sitemap/404, security-header templates, and careful beta/risk language.

Technologies: React Native, Expo, TypeScript, Node.js, MongoDB, AWS S3/CloudFront, Solana, Jupiter, Helius, Magic Eden, Polymarket, CoinGecko, CoinMarketCap, Birdeye, API proxy/cache architecture, mobile security patterns.

Founder / CEO / R&D Engineer

- Operate R&D venture spanning software, web/mobile products, technical consulting, and next-generation electromagnetic technology research.
- Prepared and filed USPTO patent-pending electromagnet invention pro se; met formal patent intake requirements and planned international/PCT follow-on strategy.
- Produced, serviced, and maintained tens of thousands of lines of web/mobile application code using Angular 2+, React, Node/Express, GraphQL, MySQL/MongoDB, and AWS CI/CD deployment pipelines.
- Applied automated code pipelines, static analysis, and disciplined testing practices, including production products with approximately 90% frontend and backend test coverage.
- Adopted AI-assisted development workflows using ChatGPT/Codex-style tooling to compress prototype cycles from days or weeks into hours where project scope allowed.

Technologies: AI-assisted development, ChatGPT, Codex-style workflows, TypeScript, Node, Express, GraphQL, React, Angular 2+, MySQL, MongoDB, AWS IAM/Route 53/EC2/Elastic Beanstalk/Lambda/RDS/CloudFront/CloudWatch/VPC/S3, CI/CD, SPICE, patent drafting, oscilloscopes, technical writing.

BIGGBY Home Office | East Lansing, MI

October 2021 - Present

Full-Stack Software Developer

- Lead developer for BIGGBY online ordering marketplace supporting mobile ordering and order tracking across 300+ regional cafes.
- Built and maintained GraphQL/Apollo Server backend with automated AWS Elastic Beanstalk deployment and load-balanced production operations.
- Developed modern React frontend with automated deployment to S3 and CloudFront; supported Agile delivery with a small engineering team.
- Provided production support for franchise systems relying on ordering, point-of-sale transaction flows, and related operational software/services.
- Created Ziggy presentation web app and delivered recurring bi-weekly progress briefings to corporate and marketing stakeholders during online ordering rollouts.
- Maintained and modernized legacy applications across multiple languages, frameworks, protocols, and service dependencies.

Technologies: MySQL, GraphQL, Apollo Server, React, AngularJS, Node.js, TypeScript, AWS IAM/Route 53/EC2/CodePipeline/Elastic Beanstalk/Lambda/RDS/CloudFront/CloudWatch/VPC/S3, Docker, CI/CD, Agile, Microsoft Teams, VS Code.

Timeline Software (formerly Next Day Project) | Ann Arbor, MI

September 2015 - January 2019

Co-Founder / CTO

- Developed and deployed commercial native iOS field-service automation application, Timeline Facilities Management, to the Apple App Store with cloud-based Node/Express API on AWS.
- Built automated location-service workflows that generated timesheets from work locations and tracked reimbursable travel between job sites.
- Implemented 50,000+ lines of custom Swift code, including UI/UX design, native application logic, and backend integration.
- Supported deployments for staffing and contractor use cases involving Chicago Public Schools and Southeast Michigan Meijer store contractors.

Technologies: Swift, native iOS, MongoDB, Express, Node.js, AWS IAM/Route 53/EC2/S3, TypeScript, Postman, Xcode, VS Code.

Robert Bosch Automotive Steering LLC | Plymouth, MI

April 2015 - January 2018

Senior Software Engineer

- Performed advanced embedded software development in ISO 26262 ASIL D environment for electric power steering software used across Ford/Lincoln CD-4 platform vehicles.
- Designed, implemented, and tested embedded C modules in RTOS environment, including emulated tuning approach enabling roughly 40 KB of ROM variables to be tuned with a single A2L file despite 8 KB internal tuning RAM constraints.
- Designed and maintained memory maps covering multi-level bootloaders, application code, SDK packages, hardware libraries, customer black-box code blocks, and partitioned tuning-variable blocks.
- Served as error-handler and UDS services expert; corrected diagnostic-code mapping in a production-release HEX file using HexView and compilation map files when an incorrect integrator configuration was used.
- Integrated and configured CAN drivers, Ford customer bootloader, oscillator/divider/PLL values, RTOS functionality, CAN baud rate, and build/release workflows.
- Owned source control, integration strategy, build automation improvements, module implementation, module test specs, and design/code/test reviews using IBM Rational ClearCase.

Technologies: Embedded C, C/C++, RTOS, ISO 26262 ASIL D, CAN, UDS, A2L, HexView, CAPL, Vector CAN tools, Renesas Steer-by-Wire/SteerMic 2/3 microcontrollers, Green Hills/Green Studio, HIL, Python/batch/build scripts, Makefiles, IBM ClearCase.

Mitsubishi Electric | Northville, MI

March 2014 - April 2015

Electrical Engineer / Account Manager

- Served as engine-controller hardware specialist supporting development and release of Fuel Injector Control Module used in Chevrolet Corvette applications.
- Performed PCB review, customer DRE problem-solving analysis, production validation, environmental/electrical/EMC test handling, and Mitsubishi Motors account support.

DENSO | Southfield, MI

April 2013 - December 2013

Apprentice Engineer

- Completed hardware and software project requirements independently in R&D environment, including C#.NET applications to visualize, test, debug, and tune embedded systems.
- Created native Android applications in Java and built C++ API for Oktal Scanner Studio vehicle simulator to monitor, modify, and display live-simulation information.
- Developed algorithm converting exponential trunk-position sensor data into a linearly thresholdable signal for accurate obstacle detection during power trunk closure.

Technologies: C#, .NET, Java Android, C++, embedded systems, vehicle simulation, sensor-signal processing.

University of Michigan - Dearborn | Dearborn, MI

September 2012 - December 2013

Tutor and Teaching Assistant

- Teaching Assistant for introductory and advanced C/C++ Electrical and Computer Engineering courses; graded assignments/quizzes, populated grades, held weekly tutoring sessions, and delivered guest Android/mobile lectures.
- Conducted C/C++ lectures when faculty coverage was needed, including emergency class coverage for Professor Paul Watta.

EDUCATION, HONORS & LEADERSHIP

University of Michigan - Dearborn: BSE Electrical Engineering, highest distinction, GPA 3.67, April 2014. BSE Computer Engineering, highest distinction, GPA 3.67, April 2014.

Awards: 2013 University of Michigan Difference Maker; CECS 2013 Senior Design Competition Overall Champion for autonomous robotic snowplow with lidar localization and PID traction control.

Robotics competitions: Competed in five autonomous robotics competitions, placing in the money in four; second overall at ION Autonomous Snowplow Competition and IGVC International Ground Vehicle Competition.

Engineering honors: Tau Beta Pi Engineering Honor Society; Eta Kappa Nu Electrical and Computer Engineering Honor Society.

Leadership: President, Intelligent Systems Club / Robotics Club; Vice President/Treasurer roles in Tau Beta Pi Michigan Iota Chapter.

Difference Maker URL:

https://michigandifferencemakers.com/zach_degeorge

SELECTED TOOLS & LANGUAGES

C/C++ | TypeScript | JavaScript | Python | Swift | Java | Kotlin | C#/.NET | Node.js | Express | GraphQL | React | React Native | Expo | Angular | AngularJS | HTML | CSS/SCSS | JSON | Shell scripts | Composer | Makefiles | Linker/map files | CAPL | AWS IAM/Route 53/EC2/CodePipeline/Elastic Beanstalk/Lambda/Step Functions/RDS/CloudFront/CloudWatch/VPC/S3 | Docker | Git | IBM ClearCase | IBM DOORS | VS Code | Visual Studio | Xcode | Postman | MySQL Workbench | MongoDB Compass | Vector CAN tools | Microsoft Office/Teams | Final Cut Pro | Logic Pro | Audacity