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SUMMARY

Founder and CEO of Future Systems Lab (FSL), a decentralized Web3 platform for sovereign health data governance built on wallet-signed bilateral consent architecture and blockchain-verified session attestation. Thirty-year clinical background spanning dental practice, naturopathic psychology, and orthomolecular medicine, combined with self-taught applied engineering in blockchain systems, decentralized infrastructure, and AI-driven architectures. Active author on healthcare sovereignty and consent-based data systems at America Out Loud. Applicant to Arizona State University Doctor of Engineering (DEng), Spring 2027.

RESEARCH INTERESTS

Decentralized health infrastructure and consent-based data governance

Bilateral wallet-signed consent architecture: EIP-191 plain-language consent signatures with EIP-712 typed session attestation and HKDF-derived session-key encryption

Self-sovereign identity (SSI) in regulated health environments

Behavioral health delivery systems for underserved populations

Zero-PHI architecture and trustless governance for health data platforms

IPFS (via Lighthouse and Pinata) for secure, participant-controlled health records

PROFESSIONAL EXPERIENCE

Founder & Chief Executive Officer

2023 – Present

Future Systems Lab (FSL)

- Founded and leads FSL as sole executive, technical architect, and strategic decision-maker — holding full authority over engineering, governance, product design, legal strategy, and product direction.
- Architected a multi-platform decentralized ecosystem: EncryptHealth, HypnoNeuro, SovereignLedger, and AlchemistForge; NeuroBalance biosensor layer in development.
- Designed and deployed 9 smart contracts on Ethereum Sepolia including ERC-20 tokens, NFTs, and governance contracts.
- Built wallet-based authentication and consent-gated access architecture using JWT, EIP-191 wallet-signed consent (EIP-191 deployed; EIP-712 dual-signature bilateral consent is patent-pending (Provisional 64/106,748) and scoped as the Phase 5 doctoral contribution), and multi-wallet integrations (Brave Wallet, MetaMask, Coinbase Wallet, Rabby, WalletConnect).
- Built client-side AES-256-GCM encryption pipeline with wallet-signature-derived keys, deployed in AlchemistForge (on-chain encrypted journal entries). IPFS-based decentralized storage scaffolded.
- Developed governance model separating BUILD MODE and PROTECTED MODE for system safety and regulatory alignment.
- Architected and deployed a tier-based therapeutic game framework — currently operating with four flagship demos deployed and playable with on-chain achievement minting (L1 Bilateral Stimulation, L2 Companion, L2 Build Your Plate, L3 Constellation) demonstrating the full participant flow: wallet gating, HNT token rewards, on-chain achievement minting, and NFT-based tier access.
- Built AI orchestration system (OpenClaw) with AI coordination, ntfy.sh push notification integration, and monitoring dashboards.
- Filed two USPTO trademark applications (Serial No. 99533250, Class 42, December 2025; Serial No. 99821948, Class 35, May 2026) and U.S. Provisional Patent No. 64/063,037 (May 2026) covering the single-signer EIP-191 wallet-signed consent architecture, zero-PHI constraint, and Sovereign Guide attestation model, and No. 64/106,748 (July 2026) covering the bilateral dual-signature consent protocol (EIP-191 + EIP-712) with HKDF session-key derivation.
- Self-taught Web3, decentralized systems, and systems engineering within 6 months with no prior software engineering or blockchain development experience.

Weekly Contributing Author

2024 – Present

America Out Loud

- Published ongoing work on blockchain healthcare systems, decentralized identity, and participant data sovereignty.

- Topics include health payment infrastructure, consent-based data control, and systemic healthcare reform.

Contributing Writer

2024 – Present

Energetic Health Institute

- Writing on orthomolecular medicine, nutritional psychology, and medical neuroscience — translating clinical research into accessible content on nutrition's role in emotional resilience and trauma recovery.

Founder & Clinical Director

2023 – Present

Naturopathic Psychology & Hypnosis Center

- Operates an active naturopathic psychology and hypnosis practice implementing amino acid therapy protocols (Linus Pauling, Abram Hoffer, William Walsh, Albert Mensah) with a client caseload supporting anxiety, depression, bipolar disorder, and schizophrenia.
- Designed the practice website and integrated Web3 crypto payment systems for client transactions.

Founder & Clinical Director

2018 – 2023

SunCodes Holistic Health

- Developed and operated integrative wellness practice applying orthomolecular frameworks.
- Personally designed, renovated, staged, and art-directed the interior conversion from tobacco smoke shop to therapeutic wellness center in Apex, NC — the second CBD store in North Carolina and the first licensed health practitioner in the state to develop a proprietary branded CBD line — redirecting existing customers from tobacco-based products to medicinal hemp.
- Managed full seed-to-shelf lifecycle of a neurotransmitter-targeted CBD wellness line — including in-house logo, label, and packaging design, formulation, third-party COA testing, GMP documentation, barcode integration, and sustainable packaging (bamboo, recycled glass, eco-friendly ink) — across sub-lingual oils, gummies, smokables, and capsules for anxiety, depression, pain, and sleep support.
- Designed the SunCodes website and all visual brand assets.
- Granted essential business status during COVID-19 lockdown, remaining open while the rest of the city was forced to close; delivered product orders to shut-ins and implemented early crypto payment systems as first step toward decentralized health delivery.

Practice Operations Lead & Clinical Lead

2019 – 2025

Riccobene Associates Family Dentistry

- Served as clinical lead for one of the largest dental service organizations in the Southeast — at the onset of the pandemic, with staff unwilling to work and patients still needing care, redesigned the clinical workflows and compensation model for the dental hygiene department.
- Personally produced an average of \$1.4M annually while the redesigned system tripled production across the company hygiene department. The system was adopted company-wide and remains in use today across North Carolina, South Carolina, and Virginia — it outlasted my tenure and scaled beyond the state where I designed it.
- Identified behavioral health patterns in patient population informing current FSL systems architecture design.

Licensed Dental Hygienist (RDH) — North Carolina License #7177

1996 – Present

Private Practice

- Clinical practice integrating behavioral and physiological health observations — the dental chair consistently served as an informal counseling space, revealing the direct clinical connection between psychological distress and oral health neglect.

EDUCATION

Doctor of Naturopathic Psychology (D.N.Psy.) · Kingdom College of Natural Health, 2023

Bachelor of Science — Management Information Systems & Business Analytics · Colorado State University Global (HLC Accredited), Expected July 2026

Health Informatics Specialization · Johns Hopkins University, 2025

Health Informatics on FHIR (Audit) · Georgia Institute of Technology, 2025

Medical Neuroscience · Duke University, 2025

Web3 & Blockchain in Global Commerce · INSEAD, 2025

Amino Acid Therapy · Academy for Addiction and Mental Health Nutrition

Holistic Nutrition · Energetic Health Institute

Associate of Applied Science (A.A.S.), Dental Hygiene · Coastal Carolina Community College

PROFESSIONAL MEMBERSHIPS

IEEE (Institute of Electrical and Electronics Engineers)
 International Council on Systems Engineering (INCOSE)
 ISC² — International Information System Security Certification Consortium
 American Medical Informatics Association (AMIA)
 Healthcare Information and Management Systems Society (HIMSS)
 Product Development and Management Association (PDMA)
 International Society for Orthomolecular Medicine
 National Association of Nutrition Professionals (NANP)

CERTIFICATIONS

Certified Blockchain Healthcare Professional (CBHP) — Blockchain Council
 Certified Smart Contract Auditor — Blockchain Council
 CISA Exam Preparation Certificate — Packt
 SSI Master — Self-Sovereign Identity — DizmeID
 Data Analytics, UX Design, Project Management — Google
 Business Analyst — IBM
 IPFS, Filecoin, libp2p, Merkle DAGs, Content Addressing — IPFS / Filecoin Foundation / ProtoSchool
 National Provider Identifier (NPI): 1497696264 — Naturopath (175F00000X), NPPES, 2026
 Board Certified in Holistic Nutrition (BCHN) — National Association of Nutrition Professionals (NANP), 2018

TECHNICAL SKILLS**Blockchain & Web3**

Solidity, Hardhat, ERC-20/721, EIP-191, EIP-712, Ethers.js, wagmi, viem, MetaMask, WalletConnect, Rabby, XRPL, HKDF key derivation

Decentralized Infra

IPFS, Filecoin, Pinata, Lighthouse, libp2p, Gitea, Radicle, Cloudflare, VPS systems

App Development

React, Next.js, Zustand, JWT, PostgreSQL, Flask, REST APIs

AI Systems

Multi-agent orchestration, OpenRouter API, Python, Streamlit, automation pipelines

Health Informatics

HL7, FHIR, OMOP, clinical data modeling, EHR mapping, orthomolecular medicine, amino acid therapy

Engineering Mgmt

Platform governance, regulatory design, decentralized architecture strategy

RESEARCH***EIP-191 Consent Architecture for Sovereign Behavioral Health Data Governance***

Lead Author · Manuscript in preparation · Target journal: Blockchain in Healthcare Today (BHTY)

Establishes the EIP-191 wallet-signature consent pattern as a generalizable architecture for sovereign data governance, with regulated behavioral health as the deliberate stress-test domain. Documents the implementation deployed across the nine-contract Sepolia ecosystem.

SELECTED PUBLICATIONS***"Autonomous AI Governance for Decentralized Health"***

americaoutloud.news/autonomous-ai-governance-for-decentralized-health/

"From Diagnosis to Frequency in Digital Health"

americaoutloud.news/from-diagnosis-to-frequency-in-digital-health/

"Naturopathic Psychology and Data Sovereignty"

americaoutloud.news/naturopathic-psychology-and-data-sovereignty/

"Why Your Medical Record Belongs in Your Digital Wallet"

americaoutloud.news/why-your-medical-record-belongs-in-your-digital-wallet/

"Securing Health Records with IPFS — Patient Control"

americaoutloud.news/securing-health-records-with-ipfs-patient-control/

"ISO 20022 and the Future of Healthcare Payments"

americaoutloud.news/iso-20022-and-the-future-of-healthcare-payments/

"Ending the Insurance Verification Nightmare"

americaoutloud.news/ending-the-insurance-verification-nightmare/

"Blockchain Consent Transforms Patient Data Control"

americaoutloud.news/blockchain-consent-transforms-patient-data-control/

Full archive: americaoutloud.news/author/meg-montanez-davenport/

OPEN-SOURCE CONTRIBUTIONS

Self-directed contributions to healthcare informatics and decentralized identity infrastructure. Applied projects: Secure Health Login (practitioner-facing smart wallet authentication) and Future Systems Lab (decentralized wellness ecosystem with wallet-signed consent).

bcgov/aries-vcr	PR #811	Merged
openmrs/openmrs-module-fhir2	PR #577	Open
openmrs/openmrs-contrib-fhir2-ig	PR #63	Open

INTELLECTUAL PROPERTY

USPTO Trademark — FUTURE SYSTEMS LAB · Serial No. 99533250 · Class 42 · Filed December 2025

USPTO Trademark — FUTURE SYSTEMS LAB · Serial No. 99821948 · Class 35 · Filed May 2026

U.S. Provisional Patent No. 64/063,037 · Filed May 2026 · Assigned to Future Systems Lab LLC

Coverage: Single-signer EIP-191 wallet-signed consent architecture, zero-PHI constraint, Sovereign Guide attestation model.

U.S. Provisional Patent No. 64/106,748 · Filed July 2026 · Assigned to Future Systems Lab LLC

Coverage: Phase 5 bilateral dual-signature consent protocol (EIP-191 + EIP-712), HKDF session-key derivation.

DEPLOYED SMART CONTRACTS — ETHEREUM SEPOLIA

CONTRACT	ADDRESS
HypnoNeuro Token (HNT)	0x1ae1e1...84e2
EncryptHealthToken (EHT v2)	0x93583a...bd88
HypnoNeuroNFT	0xCb9EcB...7771
SovereignLedger v2	0x4afA57...aCc4
AlchemistForge	0x5e1757...3c3B
SovereignSession	0xbeb13A...65A1
NeuroBalanceConsent	0x215718...96b8
FSL Sovereign Achievement	0xC3F11d...9B8D
BenevolenceFund v2	0x96E800...251B

PROPOSED APPLIED RESEARCH (DENG)

Bilateral Wallet-Signed Consent: A Custom Signature Protocol for Decentralized Sovereign Data Governance, with Behavioral Health as Proving Ground

Applied doctoral research investigating bilateral wallet-signed consent with client-side encryption for behavioral health data governance. Phase 1 deployed; Phases 2–4 scaffolded/specified on Ethereum Sepolia testnet. Phase 5 is the doctoral contribution and is not implemented: each party produces an EIP-191 plain-language consent signature and an EIP-712 typed structured session attestation signature; the second party's EIP-712 signature cryptographically embeds the first party's; session encryption keys derive via HKDF from both parties' EIP-712 signatures such that neither party, nor the infrastructure operator, can decrypt session material alone.

While FSL uses behavioral health as its proving ground, the architecture is domain-agnostic — demonstrating that any system requiring consent-first data governance, bilateral verifiable consent, and trustless auditability can be built and stress-tested using this model.

Dr. Dragan Bošković — Blockchain Research Lab (Primary Advisor)

Dr. Gail-Joon Ahn — Cybersecurity / SEFCOM Lab (Co-Advisor)

Dr. Hassan Ghasemzadeh — Biomedical Informatics (Co-Advisor)