Justin Ellis

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PROFILE

Systems engineer and AI practitioner with 10+ years spanning enterprise infrastructure, cybersecurity operations, and applied machine learning. Founder of Ellis AI Labs LLC, where I designed and deployed a production self-hosted inference platform on Apple Silicon serving a commercial mobile application. Research interests center on edge and on-premises model inference under memory, compute, and connectivity constraints, and on the security of deployed machine learning systems.

EDUCATION

M.S., Information Technology & Administrative Management — Central Washington University, 2024–2026 (Cybersecurity Management specialization)

M.B.A., Information Technology emphasis — Western Governors University, 2017–2019

B.S., Economics — Central Washington University, 2008–2012 (GPA 3.25)

B.A., History — Central Washington University, 2008–2012 (GPA 3.25)

Honors: Honor Roll, 2010–2012. Affiliations: Project Management Institute.

RESEARCH & TECHNICAL PROJECTS

Self-Hosted Inference Platform for Constrained Deployment

Ellis AI Labs LLC | 2023–Present

- Designed and operate a local large-language-model serving stack on Apple Silicon hardware, eliminating dependence on third-party inference APIs and removing per-request token cost from the product economics.
- Implemented Redis-backed caching and a distributed worker architecture to manage throughput and latency across heterogeneous local compute.
- Engineered supporting production infrastructure: Mac Studio servers, Cloudflare networking, automated backup, Acronis disaster recovery, monitoring, and redundant power and internet.
- Motivating research question: how far can capable inference be pushed toward the edge under hard memory, thermal, and intermittent-connectivity constraints, and what does that cost in output quality?

JSG Guide — AI Recommendation System for Marine Conditions

iOS and Android, commercially released | 2023–Present

- Architected and shipped an end-to-end recommendation platform combining tidal, current, and meteorological time-series with species-specific domain knowledge to generate situated recommendations.
- Built a retrieval pipeline integrating expert-authored content and PDF-derived bathymetric maps into a queryable knowledge base backing the recommendation engine.
- Developed and maintain a codebase exceeding 100,000 lines across mobile clients, backend services, geospatial systems, and inference infrastructure.
- Implemented offline-capable mapping, route planning, waypoint tracking, and trip management for use in zero-connectivity field conditions.
- Released commercially to 2,500+ downloads and 650 paying subscribers, a 26% conversion rate, with all inference served from self-hosted hardware at zero marginal API cost.
- Owned the full lifecycle from architecture through App Store deployment and commercial launch; partnered with regional domain experts for ground-truth knowledge.

Additional Systems Work

Ellis AI Labs LLC | 2023–Present

- Built a Jupyter Notebook and AI hub integrated with the Canvas LMS, including a conversational assistant for student use. In development: a transportation management system incorporating machine-learning components, drawing on prior drayage-logistics experience.

Predictive Modeling of Student Loan Default

CWU Office of Financial Aid | 2012–2013

- Constructed and validated a linear regression model on institutional student records to estimate default risk; managed and cleaned the underlying dataset.

Economic Impact Research

Central Washington Economic Associates · WA State Employment Security | 2011–2012

- Authored a literature review on medical-institution economic impact with a comparative national dataset.

- Produced a state-level analysis of Washington sales, wage, and employment data; report published by the Washington State Employment Security Department.

TEACHING EXPERIENCE

Instructor, Data Analytics and Economics
Central Washington University, Ellensburg, WA | 09/2025–Present

- Teach undergraduate data analytics and economics coursework; develop assessments and applied lab material.

Instructor, Computer Information Systems and Cybersecurity
Clark College, Vancouver, WA | 09/2022–Present

- Teach web development (HTML, CSS, PHP, MySQL, Node.js), business analytics, SQL, and economics across the CTEC, BUAN, and ECON sequences.
- Author course curricula, lab notebooks, and Canvas assignment infrastructure emphasizing secure coding.

Adjunct Instructor, Computer Network Engineering and Business (BAS)
Renton Technical College, Renton, WA | 09/2020–Present

- Teach networking (CCNA preparation), cybersecurity, cloud computing, and scripting (Python, Bash, SQL) in the baccalaureate program.
- Mentor students entering IT and security careers.
- Earlier: Lead Economics Tutor, Central Washington University, 2012–2013.

PROFESSIONAL EXPERIENCE

Founder and AI Engineer
Ellis AI Labs LLC, Kent, WA | 12/2023–Present

- Sole-member LLC developing applied AI products; technical work detailed under Research & Technical Projects above.

Director of Instructors
Americans 4 Equality, Bellevue, WA | 01/2025–12/2025

- Directed curriculum and data initiatives for a technical-education nonprofit; supervised instructional and technical staff. Authored IT policy and coordinated technology improvements across departments.
- Managed security posture across learning management systems and internal applications; oversaw Salesforce and API development.

IT Manager / Systems Analyst / Cybersecurity Administrator
Graham Trucking, SeaTac, WA | 08/2014–01/2025

- Held end-to-end responsibility for infrastructure and security for 100 users across three co-located business units: Active Directory, DNS, email, firewalls, endpoint protection, and network security.
- Led incident response during an active security incident, containing the event and preventing major operational downtime for the drayage operation.
- Designed and merged operational databases using SQL and InfoMaker; built reporting dashboards for executive decision-making. Directed system modernization, vendor management, and Microsoft 365 administration.
- Owned a $200K+ annual IT budget covering endpoint hardware refresh, connectivity, licensing, vendor contracts, and a 100-seat mobile fleet; negotiated vendor terms and controlled per-seat costs.

Compliance / Payroll / eData Analyst
Volt Workforce Solutions, Federal Way, WA | 06/2013–08/2014

- Audited assignments against contract specifications and purchase-order rates; processed multi-client payroll in PeopleSoft and Microsoft Access under tight cycles.
- Built queries and pivot analyses to detect and quantify processing errors; documented and simplified existing procedures.

TECHNICAL SKILLS

- **Languages:** Python, SQL, R, JavaScript/Node.js, PHP, Bash, Java, HTML/CSS.
- **AI and Data:** Local LLM serving, retrieval pipelines, Redis, distributed workers, regression modeling, Jupyter, Anaconda, pandas-based analysis.
- **Infrastructure:** Linux, Windows Server, VMware, Azure, Active Directory, PowerShell, Cloudflare, Microsoft 365.
- **Security:** Incident response, EDR, SIEM, zero-trust architecture, application allowlisting, NIST and CIS frameworks.
- **Tools:** Android Studio, Git, Salesforce, ArcGIS, PeopleSoft, InfoMaker.