# Daniel Blackburn

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Experienced software engineer with 20+ years of full-stack development and a proven track record of designing, testing, explaining, building, debugging and evolving scalable, mission-critical platforms with a focus on clarity, low operational overhead, and long-term maintainability.

Known for creating thoughtful abstractions, novel solutions and high-leverage internal tools that reduce friction and empower development.  I enjoy making life easier for tomorrow, learning new things and approaching challenges with curiosity,  pragmatism and empathy.

I look forward to  solving impactful complex problems with smart and kind people.

## Experience

### Holmes Corporation – *Software Engineer, Full Stack*

*2007 – 2025 | Eagan, MN*

- Integrated LLM into design and development of applications and internal tools.
- Led design and evolution of a python based secure IAM platform serving 200K+ users and 500K+ accounts and centrally delivering JSON rpc packaged information to remote servers on authenticated users and context roles.
- Architected secure modular auth flows, custom SSO, and API integrations for federated, multi-tenant access.
- Incrementally refactored stack for multilingual and RTL support (French, Spanish, Chinese, Arabic) with modern responsive JS improvements.
- Built diagnostic, polyglot, and tracing tools across an 8-node cloud azure cluster to reduce support load and improve transparency.
- Designed, implemented, upgraded, and maintained normalized PostgreSQL schemas to simplify business logic and reduce codebase complexity with performance metric based CTE recursive queries and triggers, derived schema dump used as a complex example in pypgsvg.
- Implemented enterprise wide admin toolsets for debugging customer experiences, including impersonation.

## Technologies

**Languages:** Python, JavaScript, SQL, C, Bash, HTML, CSS, XML,  Java (minimal), J2EE

**Frameworks/Toolkits:** Zope Toolkit (ZTK), BlueBream, Plone, Docker, pypi

**Databases:** PostgreSQL, MySQL, ZODB

**DevOps & Infrastructure:** Docker, Buildout, Git, Mercurial, Subversion, Virtualenv, Memcached, OneTrust

**Testing & QA:** TDD, CI/CD, Unit Testing, Selenium, Runtime Profiling, System Diagnostics, pytest, coverage

**Web & APIs:** REST, OAuth2, JSON, RPC, AJAX, Dojo, JQuery,

**Internationalization:** i18n, RTL support, multilingual UI infrastructure

**AI/LLMs:** Prompt engineering for refactoring, automation, validation, R & D

**Platforms:** Linux (Red Hat, CentOS, Debian), macOS, BSD, Windows

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## Open Source

**pypgsvg**: An open-source tool for visualizing PostgreSQL schemas as SVGs, useful for documentation and analysis. Find it on PyPI: https://pypi.org/project/pypgsvg/

### Zope3 Tooling

Developed memory and security introspection tools: z3c.memhunt.objgraph and z3c.securitytool.

- z3c.memhunt.objgraph

- Experience building toolsets to replay as well as debug layer, pattern and data-structure specific incidents like memory leaks, and transaction deadlocks.

- [z3c.securitytool](z3c.securitytool)

## Bayview Financial LLC – *Software Engineer*

*2007 – 2008 | Coral Gables, FL*

- Developed CI/CD-enabled document generation system in Python/Zope3, integrating with J2EE, Adobe print stack, and XML-based rules engine, generating all contracts for new real estate loans.
- Built AJAX-based loan pricing UI with almost full Selenium test coverage.
- Created REST-based tools to replicate production loan data for safe, fast QA environments.

## University of Miami Medical Center – *Software Specialist II*

*2002 – 2007 | Miami, FL*

- Automated MySQL–Active Directory sync for streamlined access provisioning.
- Reverse-engineered legacy C-based automation system to allow internal modifications.
- Built internal grading and incident tracking systems for academic use.
- Delivered a video/podcast streaming platform to support a modernized curriculum

# Education

**ITT Technical Institute**
A.S. Computer Networking Systems Technology
1999 – 2001 | Miami, FL

# Professional Education

- Lifelong self-directed learner in architecture, containerization, and modern Python/C.
- CompTIA Network+ Certification (2006)

# Personal Technical

- Embedded firmware (C) for microcontrollers and PLCs.

- 3D CAD and CNC prototyping

- Cross-disciplinary, problem-driven learning and experimentation