



## DANIEL H. FUNK

### DIRECTOR, SOFTWARE ENGINEERING

**Seasoned, Multifaceted Director of Software Engineering** showcasing 18 years of leading high-performing engineering teams in developing innovative software solutions. Expert in identifying organizational and technological patterns, using visualizations and written communication to build consensus around technical directions. Transparent leader proficient at navigating conflicting and competitive interests while achieving the organization's overall objectives. Committed to aligning technology initiatives with business objectives, fostering a culture of continuous improvement, and mentoring engineering talent.

#### LEADERSHIP EXPERTISE

**Budget Managed:** \$1.7M

**Project Budget:** \$1.7M

**Team Managed:** 20 Direct / 30 Indirect

**Project Management:** Scrum, Agile, Kanban, Lean

**Vendors managed:** 8

**Global Team Management:** 5 Countries / 6 Offshore

### CAREER HIGHLIGHTS

- **Thought Leader:** Co-authored numerous publications as the Technical Lead for a web-based research application promoting healthier patterns of thinking using interpretation bias training.
- **Champion of Automation:** Brought critical medical research back online during the summer of the pandemic by developing and implementing a complex approval process application.
- **Organization Builder:** Founded and scaled multiple entities from the ground up, including growing a company to 12 employees, a nonprofit organization to 120 members, and an open-source project with a community of 400.

### SKILLS & EXPERTISE

Technical Leadership | Software Development | Agile Methodologies | Project Management | DevOps | Cloud Computing | CI/CD | Automation | System Architecture | Team Building | Code Quality | Performance Optimization | Security Compliance | Budget Management | Stakeholder Communication | Technical Strategy | Problem Solving | Scalability | IT Governance | Infrastructure Management | Network Security | IT Strategy | Vendor Management

### PROFESSIONAL EXPERIENCE

#### Sartography | Staunton, VA Founder and CEO

2011 – Present

- Grew the company from 1 to 12 full and part-time employees and contractors, delivering a consistent annual average revenue growth rate of over 50% for the last 5 years, with a median of 47%.

#### Selected Projects

##### SpiffWorkflow: 2021 – Present

*Served as technical lead and software developer and transitioned to community building and sales for consulting services for an open-source Visual Programming / Process Automation Platform using BPMN and Python.*

- Raised \$2.8M in funding over five years across multiple organizations.
- Established a global user base with 200 active users within the open-source software.
- Grew GitHub stars by 78%, from 900 to 1600, over five years.
- Founded and grew a discord community to 400 participants over two years.
- Created a portfolio of 750+ real and interested contacts in the project through digital marketing strategies.
- Auto-generated web forms using JSON Schemas and leveraging AI integrations with ChatGPT.

##### CR Connect2: 2019 – 2022

*Served as the lead software engineer overseeing a team of 5 to develop CR Connect, streamlining the submission process to the University of Virginia's Institutional Review Board for Health Sciences Research.*

- Established and cultivated relationships to negotiate contracts totaling \$1.2M
- Promoted the adoption of CR Connect, championing its deployment across the University of Virginia.

##### Research Ramp Up / Saliva Testing: 2020

*Served as lead software engineer in collaboration with the Chief of Staff to develop a series of emergency applications for the VP of Research at UVA.*

- Brought critical medical research back online during the summer of the pandemic by developing and

implementing a complex approval process application that brought labs back online within days of its deployment.

- Ensured 100% compliance with numerous shifting state and federal regulations by developing a platform for collecting and analyzing saliva samples.
- Delivered a working application in under 6 weeks, allowing for streamlined approvals for a period of 16 months.

### **MindTrails: 2014 – 2019**

*Served as Technical Lead for a web-based research application promoting healthier patterns of thinking using interpretation bias training.*

- Developed and managed projects that scaled from three researchers to over 20.
- Co-authored numerous publications related to the results of the projects.

### **Large Scale Database Consultations and Development: 2014 – 2017**

*Provided consulting services on Cassandra for multiple large-scale production systems*

- Provided critical on-site face to face support for Seagate debugging issues with DataStax search systems in a 45 node cluster.
- Oversaw the launch of a Cassandra-based FamilySearch.org website for the LDS Church – running sixty clusters across three availability zones.

*Served on a three-year contract with the US Patent Office to develop a new search engine for patent officers.*

- Provided the US Patent Office with rich, previously inaccessible search details by developing a large-scale ingestion process based on TIKA and creating custom Solr components.

## **ADDITIONAL EXPERIENCE**

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**Lead Architect** at the University of Virginia: 2010 – 2011

**Software Development Manager** at Rosetta Stone: 2006 – 2010

**Principal Research Scientist** at Battelle Memorial Institute: 2003 – 2006

## **EDUCATION**

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**Bachelor of Science – Computer Science**

James Madison University

## **CERTIFICATIONS**

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**Certified Apache Cassandra Architect:** 2016

## **TECHNICAL SKILLS**

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<b>Programming Languages:</b>	Python with Flask, Java, Javascript with Angular and React, Scala
<b>Software Related Technologies:</b>	Git, Relational Databases (MySQL, Postgres), Non-Relational Databases (Cassandra, certified architect), Cloud Computing (AWS), DevOps (GitHub Actions, Docker)
<b>Software Architecture:</b>	Expert in UML and BPMN notations, Sphinx Documentation
<b>AI/ML:</b>	NLP (ChatGPT/Co-Pilot, JSON Schema Generation for Automated Form Building), Personal development in ML with online courses in Python

## **PUBLICATIONS**

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### **IEEE Software Magazine: Creating a Low-Code Business Process Execution Platform With Python, BPMN, and DMN**

*Describes work related to the CR Connect 2 and early efforts on the SpiffWorkflow library as completed between 2019 and 2021.*

- **Link/Citation:** D. Funk, "Creating a Low-Code Business Process Execution Platform With Python, BPMN, and DMN," in IEEE Software, vol. 40, no. 1, pp. 9-17, Jan.-Feb. 2023, doi: 10.1109/MS.2022.3212033.

### **Academic Publication: Multi-session online interpretation bias training for anxiety in a community sample**

*Led technical development for a multi-session online cognitive bias modification training using MindTrails software in collaboration with the PACT lab at the University of Virginia. Created backend and user interface software, resulting in the most cited article. Co-authored 9 publications from the PACT lab.*

- **Link/Citation:** <https://doi.org/10.1016/j.brat.2021.103864>

### **Medium.com: A Visual Workflow Library for Python**

*Published an article in 2021 that built a large audience for the open-source project, leading to securing multiple projects for our company.*

- **Link/Citation:** <https://medium.com/p/d19e1387653>

## **PRESENTATIONS**

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**The Real Python Podcast: 02/10/2023**

- [Wrangling Business Process Models with Python and SpiffWorkflow](#): An hour-long interview with host Christopher Bailey discussing BPMN and business process automation with Python.

**PyRVA - Business Automation Made Easy: 08/2023**

- Presented the Python Users Group in Richmond Virginia.

**DC Python Meetup - "Business Process Automation": 09/2022**

- Delivered a remote presentation and demo of SpiffWorkflow to the Python Users Group in Washington, DC.

## HONORS & AWARDS

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**Chief Architect of Anarchy – Staunton Makerspace: 2024**

## COMMUNITY ENGAGEMENT

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**Co-Founder, Staunton Makerspace**

- Established a makerspace offering low-cost access to state-of-the-art electronics tools, laser cutters, CNC machines, a pottery studio, and woodworking equipment.
- Led the growth of the makerspace from 2 members in a rented building to over 120 members in a fully owned 6,000 sq. ft. facility with over \$50K in savings over the last decade.
- Coordinated the production and distribution of over 3,000 face shields to local hospitals during the 2020 pandemic.
- Organized and hosted numerous programs engaging adults, teens, and children, fostering partnerships with community theater organizations, local schools, and robotics clubs.

**Volunteer, Staunton Public Library**

- Donated and installed a 50-gallon planted aquarium, including a stand, lighting, and filtration system, for the Staunton Public Library in 2012.
- Managed and maintained the aquarium with monthly cleanings for 6 years, sharing a passion for the beauty and art of planted aquariums with the community.

**Board Member, Shenandoah Community Capital Fund (SCCF)**

- Drove the strategic direction and governance of SCCF, a nonprofit organization dedicated to providing training and financial support for the growth and sustainability of small businesses in the local area.
- Developed and executed initiatives to cultivate entrepreneurship and economic development within the Shenandoah community.

## INTERESTS

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Making Ships in Bottles, Origami, 2D (CNC) and 3D Modeling, Robotics - Arduino and Raspberry Pi Development, Wood Working, Ceramics, Glass Cutting, Glass Blowing, Jewelry Making