

BLAINE BELL, Ph.D.

Los Altos, CA 94022 | (917) 838-9200 | blaine@blainebell.org | <https://www.linkedin.com/in/blaine-bell-profile/>
<https://blainebell.org/>

ENGINEER MANAGER

Driving innovation / Scaling high-performance systems / Empowering engineering teams / Relationship Building

Innovative technical leader, developing and optimizing large-scale, high-performance systems that transform complex technical challenges into seamless, scalable solutions. Drive cross-functional collaboration, aligning engineering efforts with business goals to accelerate product development and enhance user experience. Lead and mentor teams, integrating innovative visualization and interactive technologies while refining development processes for efficiency and impact. Solve intricate software architecture problems, streamline workflows, and execute data-driven strategies to improve system performance and product success.

CORE COMPETENCIES

Computer Graphics & User Interfaces	Augmented & Virtual Reality (AR/VR)	Real-time Interactive Distributed Systems
Data Visualization & Analytics	AI/ML Product Integration and Development	Technical Strategy & Innovation
Software Architecture & Scalability	Development Lifecycle (SDLC)	Engineering Leadership & Team Development
Hands-on Software Development	Agile Development & Execution	Cross-functional Collaboration

PROFESSIONAL EXPERIENCE

CLOCKWORK – Palo Alto, CA

Software Engineering Manager

11/2025 – 05/2026

Led frontend engineering efforts within a fast-paced infrastructure and AI systems startup focused on data center observability, workload monitoring, performance, and distributed systems visibility. Managed frontend execution across rapidly evolving product requirements, collaborating closely with backend, infrastructure, product teams, and sales to deliver scalable visualizations and features for infrastructure management.

- Managed and mentored frontend engineers in a fast-paced startup environment, improving execution clarity, cross-functional collaboration, development workflows, and engineering processes across rapidly evolving product requirements.
- Drove frontend delivery and release execution supporting customer demonstrations, infrastructure visualization, API integration, and production readiness under aggressive timelines.
- Contributed hands-on full-stack development across frontend and supporting backend systems, including performance-focused UI implementation, tooling, visualizations, interactions, and development infrastructure improvements.

WORKDAY – San Mateo, Santa Clara, Pleasanton, CA

Software Engineering Manager

01/2021 – 05/2025

Lead and managed two engineering teams (6-9 direct reports) within a cross-functional group of ~20, including designers, testers, product managers, and documentation specialists in a high-performance, product-focused culture, driving collaboration to deliver analytical products. Lead regular meetings across all five engineering teams to coordinate all parts of the development cycle with collaborations and dependencies across teams. Developed and executed strategies to optimize productivity, streamline development, and maintain consistent Scrum processes for greater efficiency.

- Defined and implemented structured recruitment process, hiring and cultivating diverse engineering teams.
- Led technical initiatives, enhancing system performance, scalability, and feature integration.
- Implemented tools leveraging Workday infrastructure to automate programming tasks, reducing effort by up to 90%. Improved observability, identifying performance bottlenecks and fostering innovation through product discussions and hackathon projects, showcasing engineering-driven solutions.
- Drove ongoing development of major analytics products, increasing usage and user base 10%-25% annually.
- Led development and ongoing support of shared visualization library that powers data-driven insights across products and teams. Integrated library into core platform components, maintaining consistent, high-quality data visualizations for 10,000+ customers and 70 million users, improving performance, usability, and maintainability.
- Guided development and integration of AI/ML solutions, driving product innovation.
- Collaborated cross-functionally to identify opportunities, influence project roadmaps, and integrate cutting-edge models, enhancing user experience and delivering impactful AI-powered features.

Principal Software Engineer**01/2019 – 01/2021**

Built, integrated, and supported graphical techniques within visualization engines, supporting analytics teams across Workday.

- Led the conversion of the Workday charting engine (Aurora) to support native iOS and Android platforms, using a unified JavaScriptCore and WebKit codebase.
- Built a unified language and operation set, enabling animated visualizations across all platforms. Boosted performance by ~10x for mobile support while maintaining JavaScript development continuity for cross-platform compatibility.
- Evaluated and implemented build processes across three teams, streamlining development-testing collaboration, reducing regression defects by approximately 5x, and accelerating release cycles into production every two weeks instead of as-needed (i.e., every couple of months).
- Developed new features and components for web-based analytics products using React/Redux, collaborating with designers to assess and refine UX, improving consistency of components across multiple products, and driving adoption growth.

RAVN – New York, NY

Chief Technology Officer & Co-Founder**08/2017 – 08/2018**

Developed battlefield multi-user head-mounted display (HMD) software, integrating weapon-mounted interfaces, gun-mounted cameras, drones, robots, and facial recognition for enhanced situational awareness.

- Built communication-driven software, enabling real-time device discovery, selective connectivity, and network traffic optimization based on proximity, capabilities, and relay accessibility.
- Enhanced software platform for peer-to-peer, client-server, and hybrid topologies, optimizing performance in resource-constrained networks. Simplified development and maintenance of edge-based systems, enabling continuous iteration and delivery.
- Deployed system in tactical exercises, demonstrating scalability and operational readiness for Navy SEAL Close Quarters Combat (CQC) training.
- Collaborated with SEAL Team leaders to refine the user interface, hardware design, and training systems, assessing feasibility for procurement.

EVERYWHERE 3D – New York, NY

Founder**12/2015 – 08/2017**

Developed strategic relationships with business leaders, identifying commercial opportunities in VR/AR, Edge Computing, and IoT. Created promotional videos, showcased prototypes, and presented innovations at industry conferences.

- Built distributed graphical applications demonstrating interactive multi-device collaboration, exploring applied use cases in wayfinding, mobile restaurant ordering, and real-time peer-to-peer video recording.
- Developed a Unity plugin to provide view management in games and commercial applications.
- Optimized computational performance, computing screen space on request instead of every frame, enabling dynamic 3D object placement between computations and boosting frame rates by ~10x; achieved partnership and a co-founder role at Ravn, where the system became the foundation of the product.

Additional experience as Principal Scientist & Technical Lead with Schrödinger, Senior Software Developer with Metalogics, and Consultant with Sybase Professional Services

EDUCATION

COLUMBIA UNIVERSITY GRADUATE SCHOOL OF ARTS AND SCIENCES – New York, NY

Ph.D., Computer Science

COLUMBIA UNIVERSITY SCHOOL OF ENGINEERING AND APPLIED SCIENCE – New York, NY

Master of Science in Computer Science | Bachelor of Science in Computer Science

TECHNOLOGY

Languages: TypeScript, JavaScript, C++, C#, Java, SQL

Frontend & UI: React, Redux, Vue, WebGL, HTML5, Data Visualization

Infrastructure & Architecture: Distributed Systems, Observability Platforms, Performance Optimization, API Integration

Graphics & XR: OpenGL, Unity, AR/VR, Real-Time Rendering

Tools & Platforms: Git, Jenkins, Jira, Figma, Linux, AWS

PUBLICATIONS

B. Bell, S. Feiner, and T. Höllerer. "Managing Visual Constraints in 3D User Interfaces," in Multimodal Intelligent Information Presentation, O. Stock and M. Zancanaro, Eds. Netherlands: Kluwers, 2005, pages 255–277.

Bell, B., Höllerer, T., and Feiner, S. "An Annotated Situation-Awareness Aid for Augmented Reality," In Proc. UIST (ACM Symp. on User Interface Software and Technology), 2002, 213-216.

Bell, B., Feiner, S., Höllerer, T. "Information at a Glance". IEEE Computer Graphics and Applications, vol. 22, no. 4, July/August 2002, 6-9.

Bell, B., Feiner, S., and Höllerer, T. "View management for virtual and augmented reality." In Proc. UIST '01 (ACM Symp. on User Interface Software and Technology), 2001, 101-110. (Recipient of ACM UIST 2001 Best Student Paper Award)

Bell, B. and Feiner, S. "Dynamic Space Management for User Interfaces." In Proc. UIST '00 (ACM Symp. on User Interface Software and Technology), 2000, p. 239-248.

PATENTS

Bell, B. and S. Feiner. "Computer program composed from tabular storage structures that include data and code." Patent #US9253286 B2, 2016.

Bell, B. and S. Feiner. "Thin-Client and Distributed Development Using Data Programming." Patent #US8260850 B2, 2012.

Bell, B., S. Feiner, and T. Hoellerer. "System and Method for View Management in Three Dimensional Space." Patent #US7643024 B2, 2010.

Bell, B. and S. Feiner. "System and Method for Dynamic Space Management of a Display Space." Patent #US7404147 B2, 2008.