Zachary Abney

Design & Learning Specialist | Technical Visualization | Digital Training Systems

www.zacabneyart.com

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Professional Summary

Design and learning specialist with a strong background in technical visualization, digital training content, and cross-disciplinary collaboration. Experienced in translating complex manufacturing, engineering, construction, and operational processes into clear visual assets, interactive learning materials, and scalable training systems. Combines design expertise with software development, CAD/CAM optimization, VR training, and customer-facing experience to create technology and learning experiences that are intuitive, efficient, and easy to adopt in large operational environments.

Core Skills & Competencies

- Technical & Instructional Design
- Process Visualization & Documentation
- Learning Content Development (Digital & Video)
- VR / AR Training & Simulation
- CAD/CAM & Manufacturing Optimization
- Cross-Functional Collaboration
- Customer & Stakeholder Communication
- Rapid Prototyping & Iterative Design
- Understanding of Data Structures & Design Patterns

Technical Skills

Design & Media
Adobe Illustrator, Adobe Premiere Pro, After Effects

Development
Python, JavaScript, React, HTML, GLSL, THREE.js, Bootstrap

Engineering & Manufacturing
WorkNC (5-Axis Toroidal Milling Optimization), CAD/CAM Workflows

Platforms & Tools
Git, Docker, Salesforce, Monday.com, CRM Systems, Cursor, Windsurf

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Professional Experience

LabPilot — *Senior Operations Specialist*

May 2025 – Present

- Design and produce technical illustrations and process documentation using Adobe Illustrator for complex manufacturing and reline workflows.
- Develop overview, instructional, and training videos using Premiere Pro and After Effects for internal teams and customers.
- Create structured learning materials that translate technical and operational processes into repeatable, scalable training systems.
- Perform CAD/CAM optimizations in WorkNC, focusing on 5-axis toroidal milling efficiency, quality, and toolpath performance.
- Collaborate with a development team on backend systems using Python and frontend user experiences using React, JavaScript, HTML, GLSL, and Bootstrap.
- Contribute to UI/UX decisions with emphasis on clarity, usability, and fast onboarding for technical users.
- Use Git and Docker to support version control, deployment, and collaborative development.
- Rapidly prototype concepts across multiple IDEs (Cursor, Windsurf) before refining production implementations.
- Support customer relations by translating technical constraints into clear explanations and expectations.

Perfit Dental Solutions — *CAM Operations & VR Development*

August 2023 – May 2025

- Analyzed production data to identify bottlenecks and operational inefficiencies impacting delivery timelines.
- Developed Python-based workflow automation and process improvements in the mainline software branch.
- Designed and built VR training and troubleshooting tools to simplify complex manufacturing and client-side issues.
- Created CAD/CAM visualization tools using THREE.js and custom GLSL shaders to improve process clarity.
- Communicated with cross-functional teams to enforce deadlines and production targets.
- Provided coaching and mentorship to support staff development and skill growth.

Canadian Pacific — *Operator*

May 2018 – August 2023

- Operated and monitored machinery to safely meet production and operational requirements.
- Performed routine maintenance including inspections, lubrication, and equipment checks.
- Assisted in training new operators on proper machine usage, safety, and workflow procedures.
- Transported materials and equipment between job sites as required.
- Conducted periodic equipment checks and collaborated with team members to resolve issues and maintain workflow continuity.

Ninth Lab — *Artist Instructor / Muralist*

May 2015 – March 2021

- Drafted sketches and mock-ups of proposed designs for client approval prior to final execution.
- Taught art classes and workshops at Ninth Lab Studio.
- Managed social media presence to promote projects and engage audiences.
- Developed marketing materials including business cards and promotional assets.

Education

- **Extended Learning: VR / AR / XR** — University of British Columbia, Vancouver, BC
- **Communication Design** — Emily Carr University, Vancouver, BC
- **High School Diploma** — Princess Margaret Secondary, Penticton, BC

Portfolio & Profiles

- www.zacabneyart.com
- www.artstation.com/zacabneyart

Accomplishments & Awards

- Performer at TEDxTRU (2018)
- Winner: ArtBattle Kamloops, ArtBattle BC; Competitor at National ArtBattle (Toronto)
- Winner: Interior District Scholarship for Visual Arts
- Runner-up: Mayor’s Award – Top Artist, Kamloops, BC
- Winner: Best of Kamloops — Best Visual Artist
- Mayor’s Gala Award Winner (2018, 2019)
- Art Battle Regional Winner (2019, 2020)

Target Role Alignment — Design & Learning Specialist (Construction / Industrial)

- Proven ability to convert complex physical, digital, and manufacturing processes into structured learning systems
- Strong background in technical visualization, documentation, and training media
- Experience supporting large operational teams with safety-critical and process-driven workflows
- Effective bridge between design, engineering, software, and field operations