BRIAN KLOOSTERMAN JR

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PROFESSIONAL SUMMARY

Creative technologist and engineer with expertise spanning AI/ML systems, robotics, IT infrastructure, and STEAM education. Built autonomous robots, industrial computer vision systems, and interactive educational platforms—always from scratch. Decade of experience designing custom solutions: training neural networks, developing hardware systems, troubleshooting enterprise IT, and teaching technical concepts to diverse audiences. Specialize in bridging complex engineering challenges with practical, hands-on implementation. Equally effective building AI vision systems, managing IT infrastructure, or guiding students through their first coding project.

CORE COMPETENCIES

Technical Expertise

- **AI & Robotics:** LLM integration, autonomous systems, computer vision, TensorFlow.js
- **Programming:** JavaScript, Python, Java, C++, Node.js, P5.js
- **Hardware:** Arduino, electronics, 3D printing, stereo vision systems
- **Web Development:** Full-stack applications, AWS, interactive visualizations

Teaching & Curriculum

- **STEAM Education:** Computer Science, Physics, Mathematics, Philosophy
- **Curriculum Design:** Project-based learning, hands-on coding labs, interdisciplinary units
- **Educational Technology:** Interactive apps, learning platforms, digital tools
- **International Experience:** Taught across China and US schools

EDUCATION

Master of Education (MEd) in Globalization in Education
Moreland University | 2017 | Cumulative GPA: 3.64

Bachelor of Arts in Fine Art Studies (Computer Science, Web Development, Visual Arts & Dance)
Lake Superior State University | 2013 | Cumulative GPA: 3.4

WORK HISTORY

IT SUPPORT SPECIALIST | Sault Tribe of Chippewa Indians *October 2024 – Present*

- Provide IT support and maintenance across tribal facilities including health centers, police departments, courts, casinos, USDA offices, and enterprises
- Troubleshoot hardware, software, and network issues for diverse end-user environments
- Manage computer systems, perform repairs, and ensure operational continuity across multiple locations
- Support enterprise IT infrastructure serving critical tribal services and operations

INDEPENDENT AI DEVELOPMENT CONTRACTOR *2024 – Present*

- Develop AI vision systems for quality control in industrial manufacturing environments
- Build custom training toolsets and models using YOLOv4, TensorFlow, and Nvidia TAO
- Design and implement computer vision solutions for defect detection and product inspection
- Work with major corporations to deploy production-ready AI systems for quality assurance

DIRECTOR | Reina Recycling (Non-profit) *September 2022 – Present*

- Direct educational programs connecting environmental sustainability with hands-on technology projects
- Create learning materials teaching electronics repair, responsible recycling, and legacy computing systems
- Manage community partnerships and identify opportunities for program expansion
- Apply technical knowledge to improve resource recovery and operational efficiency

TEACHER OF PHYSICS, COMPUTER SCIENCE, & PHILOSOPHY | Kunming International Academy *July 2022 – July 2024*

- Taught AP Computer Science, Physics, and Philosophy to high school students
- Designed project-based coding curriculum covering data structures, algorithms, and software development
- Introduced AI and machine learning modules using TensorFlow.js and Python
- Collaborated with international faculty to align courses with American and IB standards
- Created interdisciplinary projects connecting programming, physics simulations, and philosophical inquiry

TEACHER AND CURRICULUM DEVELOPER | Daxuan Primary School *July 2020 - July 2022*

- Designed STEAM curriculum for elementary students covering Science, Math, Computers, and inquiry-based learning
- Created hands-on projects: custom number systems inspired by Cistercian monks, windpower vehicle engineering, and xenobiology ecosystems
- Taught computer literacy fundamentals and introductory coding concepts to young learners
- Built assessment tools measuring student growth in computational thinking and scientific reasoning
- Collaborated with teachers to integrate interactive technology into daily lessons

TEACHER | Ashton High School *July 2014 - July 2020*

- Taught Chemistry, Physics, AP Computer Science A, Student-led Projects, PE, US Civics, and Arts
- Delivered AP Computer Science A instruction covering data structures, algorithms, and software development in Java
- Conducted laboratory experiments and demonstrations in Chemistry and Physics
- Adapted teaching methods based on student performance data and learning needs
- Guided student-led technical projects from concept to completion

CURRICULUM DEVELOPER | Ashton High School *July 2015 - July 2020*

- Developed science and computer science curricula aligned with international academic standards
- Designed learning materials including digital resources, laboratory exercises, and project-based assessments
- Updated curriculum regularly to reflect current scientific research and emerging technologies
- Created assessment tools to measure student learning outcomes and curriculum effectiveness
- Coordinated educational technology adoption across science and computer science departments

STUDENT AND FACILITIES MANAGER | Ashton High School *February 2018 - July 2019*

- Coordinated student activities, events, and programs with administrators, teachers, and staff
- Managed facility operations and resource allocation for technology and learning spaces
- Supported technology infrastructure needs for classrooms and laboratories
- Maintained positive learning environment through proactive student support

TECHNICAL SKILLS

Programming Languages: Java, JavaScript, Python, C++, C#, Pascal, Scratch

AI & Machine Learning: TensorFlow.js, LLM integration, Custom model training, Object recognition (YOLOv4, YOLOv8), Speech-to-text, Text-to-speech, Nvidia TAO

Web Development: Node.js, P5.js, HTML/CSS, Full-stack applications, AWS cloud services

Hardware & Robotics: Arduino, Electronics design, 3D printing, Stereo vision systems

Data Tools: SQL, Data visualization, Interactive visualizations, Spreadsheet analysis

Development Tools: Git, Linux, Visual Studio, Eclipse

Digital Media: Video production, Image editing, Audio engineering, Music production

CERTIFICATIONS

Fundamentals of Google AI for Web Based Machine Learning | Professional Certificate
Google (EdX) | 2023

TESOL Certificate
OnTESOL | 2014

AWARDS & RECOGNITION

Four Qualities of an Excellent Teacher | Dianchi Experimental School | 2018
Recognized for Revolutionary Ideas, Moral Character, Professional Learning, and Compassion for Students

Star Teacher Award | IC Academy | 2018

Artwork Displayed in Michigan House of Representatives | 2008

FEATURED PROJECTS

Autonomous Robot with Full-Stack Control Platform (ThirdPerson AI)

2023 - Present | Node.js, PostgreSQL, Python, TensorFlow.js, Arduino, Railway

Production-deployed robot control platform integrating multi-modal AI capabilities through comprehensive web application. Built full-stack system with Express backend, PostgreSQL database, JWT authentication, and RESTful API serving real-time robot control interface. Platform features streaming LLM chat (Llama 3.1 via Together.ai), computer vision (YOLOv8), bidirectional speech processing, LIDAR spatial mapping with Python integration, and persistent memory system. Deployed on Railway with multi-user support, demonstrating rapid full-stack development through iterative prototyping approach.

Community Time Banking Platform (SoDo)

2025 | Node.js, PostgreSQL, Express, Railway, QR Integration

Production-deployed mutual aid application enabling communities to exchange services through hour-based credits rather than currency. Developed full-stack platform with Express backend, PostgreSQL database, and responsive web interface. Implemented geographic distribution system with zip-code-based admin verification, account request workflows, and privacy-focused architecture storing personal data temporarily. Features QR code integration for rapid account sharing, quick-connect favorites, granular time tracking (0.1-hour increments), and 12-hour credit limits encouraging economic circulation. Successfully deployed on Railway serving real community mutual aid networks.

Interactive Educational Applications Suite

2020-2023 | P5.js, Java, JavaScript

- **Bugs & Birds Evolution Simulator:** Interactive biology simulation teaching natural selection through gameplay
- **Pixels and Duck:** Visual programming environment for elementary students learning loops and conditionals
- **Interactive Calculator:** Educational tool visualizing how mathematical formulas flow through operations
- **My Numbers:** Custom number system inspired by Cistercian monks with functional clock display

Spiking Neural Network from Scratch

2018-2019 | Java, Multithreading

Self-assembling spiking neural network built entirely from scratch using genetic algorithms and evolutionary principles. Object-oriented architecture with multithreading for performance. System demonstrated emergent behavior and adaptive learning without relying on external AI frameworks.

VR Education Platform

2016-2017 | Unity, C#, AWS, Custom Scripting Language

- **VR Stage Acting Simulator:** Immersive role-playing system with custom scripting language for directing theatrical performances
- **ArtRooms VR Museum:** Collaborative virtual gallery for AP Art History students featuring spatial audio descriptions

Science Curriculum Development Portfolio

2015-2019 | Curriculum Design

Created project-based STEAM assessments integrating multiple subjects and grade levels. Curriculum guided students through authentic scientific inquiry and creative problem-solving methods.

Full portfolio with demonstrations, videos, and source code available at: https://theluckyfellow.github.io/BLKJr/