

BRANDON MILLS

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This document catalogs AI applications, research systems, and platform infrastructure developed independently. All projects are self-funded and self-built — combining technical AI development with applied research in cognitive science, psychology, and human behavior. This portfolio represents work directly applicable to AI integration in higher education and institutional contexts.

CONSUMER & PROFESSIONAL APPLICATIONS

TrueCancer | AI Consumer Product Safety Scanner

Multi-modal AI system analyzing food, cosmetics, cleaning products, cookware, supplements, and baby products for hidden health risks. Democratizes access to safety information previously available only to researchers.

Platform: iOS (live on App Store) · Android beta

Technology: OCR + computer vision, toxicology database integration, LLM-powered risk scoring

Model: Freemium — Student \$9.99/mo · Family \$29.99/mo

Status: Live — apps.apple.com/us/app/truecancer/id6755970369

Professor Carl | Universal Socratic AI Tutor

AI tutoring system built on a long-term memory architecture that tracks student progress, learning patterns, and knowledge gaps across sessions. Uses Socratic questioning methodology adapted for AI-driven pedagogy.

Innovation: Persistent memory — builds longitudinal learning relationships across sessions

Pedagogy: Socratic method, adaptive difficulty scaling, pattern recognition for learning blockers

Status: Beta — Spring 2026 public release

Profound Questions | AI-Facilitated Depth Conversation Platform

Conversation platform designed for families, couples, and groups featuring multiple specialized AI hosts. Trains users to ask better questions, deepens relational engagement, and facilitates meaningful dialogue that typical social interaction avoids.

Use Cases: Families, couples, friend groups, team-building, therapeutic homework

Architecture: Multiple AI host personas, context-aware question generation

Core Premise: Most people have never been taught how to ask questions that matter

MindFrame Pro | AI Emotional State Analysis for Therapy

Video counseling application that analyzes the emotional state of therapy clients in real time. Provides clinicians with data-augmented insights during and after sessions — bringing computational psychology into clinical practice.

Function: Real-time emotional state detection via video analysis

Target Users: Therapists, counselors, clinical psychologists

Significance: Bridges the gap between subjective clinical observation and objective data

Defiant Finance | Neurodivergent AI Financial Coach

Conversational AI financial management system designed specifically for ADHD and neurodivergent users. Eliminates the manual data entry friction that makes traditional finance apps inaccessible to large portions of the population.

Problem Solved: Traditional apps require extensive manual input — a significant barrier for ADHD users

Features: Weekly AI coaching, receipt scanning, auto-categorization, subscription management, emotional spending analysis

Scale: Plaid integration — operational in 20 countries

Forge Fitness | AI-Powered Fitness Coaching Application

Personalized fitness application leveraging AI to adapt training protocols to individual performance data, goals, and recovery patterns. Designed around the principle that no two bodies respond identically to the same stimulus.

Core Function: Adaptive programming, performance tracking, AI coaching feedback

LEXICON SE | AI Voice Sales Training Platform

Voice-interactive AI sales training system for insurance agents. Delivers real-time coaching, objection handling practice, and conversational skills development through simulated client interactions.

Client: American Income Life insurance team

Specialization: Insurance sales — objection handling, trust-building, conversational flow

Status: Beta → Q1 2026 full team rollout

Lead Master AI | Intelligent Sales Lead Scraper

Automated sales lead acquisition system built for the insurance industry. Identifies, qualifies, and organizes prospective leads with AI-driven relevance scoring — reducing manual prospecting time significantly.

Industry: Insurance sales

Function: Lead scraping, qualification scoring, pipeline organization

Meta-Analysis Tool | AI-Assisted Research Synthesis Engine

Custom tool for conducting AI-assisted meta-analyses across large academic corpora. Supports the systematic aggregation and pattern recognition across research literature at a scale not achievable through traditional manual review.

Application: Academic research synthesis, literature review automation

Context: Built to support SAAM research and broader computational psychology work

RESEARCH SYSTEMS

SAAM | Self-Actualization Assessment Model

World's first self-actualization-specific NLP embedding model. Addresses a critical flaw in computational psychology: generic models (SPECTER2) incorrectly conflate self-actualization with depression at a 0.798 similarity score.

Pre-Registered: DOI: 10.17605/OSF.IO/K7TDY

Corpus: 68,683 research papers across psychology, consciousness, and human behavior

Validation: NASA-rigorous triple-tier evidence framework (NASA-STD-7009B)

Target: Behavior Research Methods (Tier 2 peer-reviewed journal)

Archetype of Fluidity | ML Framework for Dynamic Identity Modeling

Conceptualizes identity as a dynamic sequence of archetypal states rather than fixed roles. Integrates Jungian theory with archetypal analysis, clustering, and temporal sequence modeling (Hidden Markov Models, LSTM).

Methods: Archetypal analysis, LDA, HDBSCAN clustering, Hidden Markov Models, SHAP explainability

Applications: Clinical psychology, career counseling, civic discourse, UX/HCI

Prototype: Archetype Navigator — identity composition tool with transition forecasting

PLATFORM & INFRASTRUCTURE

AI Course Series | selfactualize.life

Full curriculum of AI-integrated courses hosted on selfactualize.life, covering self-actualization frameworks, psychology, and applied AI for human development. Built to democratize access to high-quality transformational education.

Platform: selfactualize.life

Focus: Self-actualization, psychology, AI-assisted personal development

Platform Infrastructure | brandonmills.com + selfactualize.life

Both primary web properties built using AI orchestration and agent-based architecture — demonstrating applied AI development beyond isolated applications into full-stack, autonomous content and product systems.

Architecture: AI orchestration agents, automated content systems, product integration pipelines

Scope: Two full platforms designed, built, and maintained using AI-first development methodology

TECHNICAL STACK

AI & ML

OpenAI · Anthropic Claude
LLM integration · Prompt
engineering · Computer vision ·
OCR · LSTM · BERT · XGBoost
Memory architecture systems

Languages & Data

Python · R · NLP · Sentiment
analysis · Random Forest ·
Neural networks · API
integration (Plaid, Alpaca)
Statistical modeling

Platforms

iOS · Android · AWS · Google
Cloud · AI agent orchestration
Git · CI/CD pipelines · App
Store deployment

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