

Micah Tilton

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Education

University of Hawaii, Honolulu, HI
B.S., Computer Science

Experience

Second Wave Technologies

Full-Stack Software Engineer 2025-08 – 2025-12

One of two developers building two AI SaaS products: Tadata.ai, a business AI assistant and workflow automation platform, and AiToVid, an AI-powered PowerPoint-to-narrated-video converter.

- Developed full-stack features with Next.js, NestJS, FastAPI, TypeScript, and Python, spanning frontend interfaces, backend APIs, AI workflow orchestration, data processing, and product integrations.
- Built product workflows for document/data processing, presentation analysis, AI script generation, voice narration, multilingual dubbing, and video export.
- Owned end-to-end feature delivery across architecture, UI/UX implementation, API design, debugging, testing, and production iteration.

CI / UH HPC

Student Assistant 2024-06 – 2025-05

Developed a RAG Agent (Hoku) using LangChain/LangGraph to address questions related to UH Mānoa.

- Utilized a High-Performance Computing (HPC) environment for the design and testing of the RAG agent.
- Incorporated software design-patterns to create reusable, testable and clean code.
- Designed a Neo4j Graph Database to enhance knowledge retrieval and improve the agent's response accuracy.

Independent

Content Creator & Educator 2020 – Present

Introduced Computer Science Principles to high school students interested in Computer Science.

- Grew a YouTube channel to 13K subscribers and a TikTok account to 250K followers, creating engaging coding tutorials on real-world computer science algorithms and many other topics.
- Managed end-to-end video production using Final Cut Pro and DaVinci Resolve, creating compelling visual narratives for complex topics.

Summary

Full-stack software engineer focused on AI-driven products, with hands-on experience building end-to-end SaaS platforms, RAG systems, and automated multimedia pipelines. Combines strong software engineering foundations in TypeScript and Python with a creator mindset shaped by large-scale educational content production across YouTube and TikTok.

Projects

Habit Tracker iOS App

Built a native iOS habit tracking app that helps users create routines, track daily completion, visualize progress through a GitHub-style activity heatmap, and review long-term habit statistics.

- Developed a native iOS habit tracker using Swift, SwiftUI, and SwiftData, with local persistence for habits, check-ins, schedules, reminders, and archived history.
- Built interactive habit workflows including daily check-ins, custom active-day schedules, archive/delete behavior, haptic feedback, and local notification reminders.
- Implemented analytics features for completion rate, total check-ins, perfect days, current/best streaks, best day of week, and per-habit consistency.
- Created WidgetKit home screen widgets with AppIntents, enabling users to view progress heatmaps and toggle today's habits directly from widgets.
- Integrated StoreKit 2 premium unlock flow with transaction verification, restore purchases, and feature gating for advanced stats/widgets.
- Designed reusable SwiftUI components, shared app theming, dark/light mode support, app group data sync, and a modular feature-based project structure.

Kulia | Full-Stack AI Resume Builder

Solo Developer

Built Kulia, a full-stack AI resume tailoring SaaS using Django, PostgreSQL, HTMX, Tailwind CSS, Stripe, Google OAuth, and pydantic-ai. Implemented AI agents for resume parsing, master resume updates, job-specific tailoring, style generation, and document export, with support for PDF/DOCX/TXT parsing, LaTeX PDF generation, credit-based payments, and Docker/Gunicorn/Nginx deployment.

- Built a full-stack AI-powered resume tailoring platform using Python, Django, PostgreSQL, HTMX, and Tailwind CSS.
- Designed a master resume workflow that parses uploaded resumes, stores structured career data, and generates job-specific tailored resumes from pasted job descriptions.
- Implemented typed AI agents with pydantic-ai to parse resumes, update user profiles, tailor content to job postings, generate style configurations, and support model switching across Gemini, OpenAI, OpenRouter, Groq, and Anthropic.
- Developed secure user authentication with Google OAuth, custom user profiles, credit-based access control, and Stripe Checkout/webhook integration for paid resume unlocks and PDF downloads.
- Built resume editing, preview, section ordering, template rendering, and PDF export flows using Django templates, HTMX partials, Jinja templates, and LaTeX-based document generation.
- Containerized the app with Docker and configured production deployment using Gunicorn, Nginx, PostgreSQL, static file handling, health checks, and environment-based settings.

GenEDU AI-Platform

2025-04 –

GenEDU is an AI-powered platform that generates engaging educational content, including animated videos and voiceovers, from user-provided materials.

- Integrated diverse AI models (LLMs, Text-to-Speech, ImageGen) and video rendering technologies (FFMPEG, Manim), including automatic thumbnail generation.
- Implemented a secure full-stack architecture using Next.js, FastAPI, and Google SSO, ensuring robust authentication and data privacy.
- Developed an automatic quiz generation feature, creating interactive assessments from educational content.

Automated Content Pipeline for Short-Form Video

2025-05 –

Developed a content automation pipeline in Python to procedurally generate short-form video content.

- Engineered a modular software architecture that separates image, audio, and prompt generation into distinct, reusable components.
- Leveraged curated datasets of animals, objects, and backgrounds to create a wide variety of unique and imaginative creature concepts.
- Streamlined the video creation process, from random creature generation and image synthesis to the final video assembly with voiceover and effects.

AI-Powered Command Line Assistant

2024-11 –

Python CLI tool that uses AI (OpenAI or Ollama) to generate and suggest terminal commands based on natural language queries.

- Developed a Python CLI tool for AI-assisted command generation, enhancing terminal productivity.
- Integrated with OpenAI and Ollama models for flexible AI backend support.
- Implemented intelligent parsing of AI responses to extract and present executable commands.

Interstellar | AI Degree Pathway Planning App

Hawaii Annual Code
Challenge 2025

Team Lead (2-person team)

2025 –

Built a full-stack AI-powered academic planning application that generates personalized University of Hawai i degree pathways from student goals, interests, transcripts, and transfer documents.

- Developed a responsive React frontend for searching, previewing, generating, refining, and exporting personalized degree plans.
- Built FastAPI backend endpoints for pathway prediction, semantic pathway search, text search, course matching, document parsing, and PDF export.
- Integrated OpenAI-powered reasoning with LanceDB vector search to match student goals against official degree pathways and UH course catalog data.
- Added support for PDF, DOCX, and TXT uploads so transcripts, syllabi, and transfer evaluations can inform generated academic plans.
- Implemented semester-by-semester pathway visualization with course details, alternate course candidates, similar pathway suggestions, local persistence, dark/light themes, and downloadable PDF plans.
- Built an AI-powered academic planning app using React, TypeScript, FastAPI, OpenAI, and LanceDB to generate personalized UH degree pathways from student goals and uploaded documents.
- Implemented semantic pathway search, course-catalog matching, transcript/document parsing, interactive course replacement, fullscreen pathway viewing, local persistence, and PDF export.

AppScreen

Hawaii Annual Code
Challenge 2025

Solo Team Lead

2025 –

AppScreen is a full-stack AI-powered job application screening platform that helps companies create job listings, collect applicant submissions, parse resumes, and evaluate candidate fit against job requirements.

- Built a full-stack recruiting platform with role-based workflows for applicants, companies, and admins using React, TypeScript, FastAPI, and PostgreSQL.
- Implemented AI-assisted job listing creation that parses pasted text or uploaded documents into structured job fields, qualifications, salary ranges, and metadata.
- Developed resume upload and parsing workflows supporting PDF, DOC/DOCX, and TXT files, with stored file metadata and extracted text previews.
- Created an application tracking system with applicant submissions, cover letters, resume attachments, status transitions, and company-side review queues.

- Integrated LLM-powered candidate screening to compare resumes against minimum and preferred qualifications, generate explainable feedback, and calculate match scores.
- Designed responsive dashboards and management views with Chakra UI, TanStack Router, TanStack Query, generated OpenAPI clients, and role-aware data access.
- Built backend services with JWT authentication, UUID primary keys, SQLAlchemy data models, Alembic migrations, file storage, and Dockerized deployment support.

Skills

Programming Languages: C, C++, C#, Java, JavaScript, Python, TypeScript, Swift

Frameworks & Libraries: React, NextJS, Next.js, FastAPI, NestJS, LangChain, LangGraph, SwiftUI, SwiftData, WidgetKit, AppIntents, StoreKit 2, UIKit

Tools & Platforms: Neo4j, OpenAI, Ollama, FFMPEG, Manim, Google SSO, HPC, UserNotifications, App Groups, Xcode

Awards

Hawaii Annual Code Challenge 2025 - First Place (Professional Category)

First place winner in the professional category for Interstellar, an AI Degree Pathway Planning App. Served as team lead for a two-person team.

Hawaii Annual Code
Challenge
2025

Hawaii Annual Code Challenge 2025 - Second Place (Professional Category)

Second place winner in the professional category for AppScreen, a full-stack AI-powered job application screening platform. Solo led the team/project.

Hawaii Annual Code
Challenge
2025

CNS Native Hawaiian Scholarship

Competitive scholarship awarded to assist in recruiting and retaining Native Hawaiian students enrolled in the College of Natural Sciences at the University of Hawai'i at Manoa.

Interests

Software Engineering; Generative AI; Multimedia Content Creation