Venture Name: Ampora

When did you begin working on this project? Date can be approximate:
9/9/2025

Is your venture incorporated?
No (options are No; Yes, Nonprofit; Yes, For-profit)

What stage would you say that your project is at?
https://docs.google.com/document/d/1U4FpA6iqnW-U_U16VLVy7nhuqyOasU2m0VekQ65rczg/edit?tab=t.0
Building: I am developing a framework/prototype for a product or service.

Please give us a 3 sentence overview of your project:
Ampora is an AI-powered learning platform that automatically generates video courses on STEM (Science Technology Engineering and Mathematics) topics, similar to OpenAI Sora 2 or Google Veo 3 GenAI Video but specifically designed for STEM classes in higher education. Students can input any technical concept (like "explain convolutional neural networks" or "how to prep for a software engineering interview") and receive a complete video lesson with slides, voiceover, and visual explanations generated within a few minutes. We're building this because quality STEM education materials are expensive and time-consuming to create, but AI can now generate personalized explanations at near-zero cost, making technical education accessible to everyone regardless of their financial background.

Who is the target audience(s)/customers of your project? How do you know?
Our primary users are STEM students, specifically those in computer science, mathematics, and data science courses, who often struggle to find clear, accessible explanations of complex topics outside of class. We know this audience because we personally experienced this pain point: as students who have spent countless hours searching for reliable resources, working through confusing lecture materials, and trying to grasp difficult concepts that professors only have time to explain once, we have experienced this problem firsthand. We validated the need through conversations with over 25 students from Emory's CS, Math, and QTM departments, where 88% said they regularly struggle to understand concepts from lecture alone, 72% reported paying for supplemental resources such as Udemy courses or private tutoring, and every international student noted that language barriers and different educational backgrounds make fast-paced lectures even harder to follow. When introduced to Ampora, 20 of those students said they would use it immediately, and 15 said they would pay for it. The equity gap is clear that free online such as YouTube Video content is inconsistent in depth and quality, while paid platforms and tutoring are expensive and lacking a structured roadmap. From our research, we identified a massive Stage-1 target market at Emory alone, there are over 1200 CS, math, and data science majors and minors, and when expanded to nearby institutions like Georgia Tech, Georgia State, and other Atlanta universities, the potential user base grows to thousands. Nationally, with over 780,000 in STEM disciplines, Ampora has the opportunity to become a scalable, affordable learning companion that democratizes access to high-quality technical education across all STEM fields.

Eventually, we plan on scaling this for all careers and their perspective degree major including but not limited to investment banking, consulting, and risk management.

What problem or goal does this audience have that you are creating a solution for? How do you know this is a real problem?

There's a massive gap between what students learn in lecture and what they actually need to know to complete assignments and succeed in technical interviews. Current solutions are either too expensive, too time-consuming to find, or simply don't exist for niche topics – and even when good content exists, it's scattered across different creators rather than available on-demand.

The problem we are solving comes directly from our lived experience as STEM students who have repeatedly hit the same wall: lectures move too quickly, course materials assume too much prior knowledge, and high-quality, affordable explanations are almost impossible to find. Whether it's a CS334 (machine learning student) struggling to understand neural networks, a QTM220 (regression analysis) student trying to interpret the complex regression or a MATH221 (linear algebra) student stuck on eigenvalues, the story is the same, students spend hours searching through inconsistent YouTube videos, paying for expensive Udemy or Coursera subscriptions they barely use, or waiting for limited TA office hours that don't fit their schedules. Many end up resorting to private tutors ($60–100/hour) or simply "winging it" through homework, leaving critical knowledge gaps that compound over time. One student we interviewed spent 8 hours watching various YouTube explanations of binary search trees before finally understanding it – 8 hours she could have spent actually practicing the concept. What students actually need is a system that can instantly generate high-quality, visual, and intuitive explanations, something as clear and well-produced as a StatQuest video, but available for any concept, across any STEM field, exactly when they need it. Ampora bridges this gap by automatically creating personalized, visually guided lessons that explain not just the what, but also the why.

We know this is a real and urgent problem because every student we interviewed, from CS to Math to QTM, described the same frustration: hours lost searching for explanations, language barriers that make lectures hard to follow, and the lack of on-demand, visual learning tools. The evidence from our surveys, interviews, and personal experience all point to the same truth: there's a massive disconnect between what's taught in class and what students actually need to learn deeply and confidently, and current resources simply aren't closing that gap.

What evidence do you have so far that your solution is the correct one?

We already built a working prototype - not mockups or a pitch deck, but actual functioning MVP. The team of three built a complete pipeline that demonstrates this is technically feasible and economically viable. Specifically, the team developed a working pipeline that takes any STEM topic (e.g., "gradient descent in machine learning" or "eigenvalue decomposition in linear algebra") and automatically generates a complete, high-quality educational video using GenAI technologies. Our biggest technical breakthrough was automating the synchronization between audio and visuals, mapping script logic to timestamps so that when the narration says "first, we initialize the array," the animation highlights that exact step in real time. This level of visual

audio coherence replicates the storytelling quality of popular YouTube channels but makes it fully automated and customizable to individual levels across any STEM concept. We tested our prototype with eight Emory students across CS, Math, and QTM courses, generating lessons on topics like vanishing gradients, B-trees, and hypothesis testing. Seven out of eight rated our videos as higher quality than typical YouTube tutorials, six said they would pay $20–40 per month for unlimited access, and feedback consistently highlighted the clarity of our "flowchart-style progression." The broader data supports our approach: visual-explanatory content like StatQuest attracts over 1.2M learners; platforms like Khan Academy's Khanmigo and Google's NotebookLM validate AI's role in personalized education; and studies on intelligent tutoring systems show measurable learning improvements. The technology works, the demand is proven, and our prototype demonstrates that Ampora can deliver personalized, high-quality STEM education at scale and near-zero marginal cost.

We already built a working prototype - not mockups or a pitch deck, but actual functioning MVP. The team of three built a complete pipeline that demonstrates this is technically feasible and economically viable. We already built a fully functional prototype, not just mockups or a pitch deck, but an actual end-to-end system that proves Ampora is both technically feasible and economically viable. Over fall break, our team developed a working pipeline that takes any STEM topic (e.g., "gradient descent in machine learning" or "eigenvalue decomposition in linear algebra") and automatically generates a complete, high-quality educational video. The system uses GPT-5 to produce a structured lesson outline, generates flowchart-style visual progressions with Python libraries like matplotlib and graphviz, creates synchronized slides through py-pptx, and adds natural-sounding voiceover narration that aligns precisely with each visual transition. Our biggest technical breakthrough was automating the synchronization between audio and visuals, mapping script logic to timestamps so that when the narration says "first, we initialize the array," the animation highlights that exact step in real time. This level of visual audio coherence replicates the storytelling quality of channels like StatQuest but makes it fully automated and customizable across any STEM concept. From an economic standpoint, each 10-minute video costs only $0.60–1.00 to produce (including all API and computing costs), compared to hundreds of dollars and 20+ hours for a human-created educational video, making our model highly scalable and sustainable. We tested our prototype with eight Emory students across CS, Math, and QTM courses, generating lessons on topics like vanishing gradients, B-trees, and hypothesis testing. Seven out of eight rated our videos as higher quality than typical YouTube tutorials, six said they would pay $20–40 per month for unlimited access, and feedback consistently highlighted the clarity of our "flowchart-style progression." The broader data supports our approach: visual-explanatory content like StatQuest attracts over 1.2M learners; platforms like Khan Academy's Khanmigo and Google's NotebookLM validate AI's role in personalized education; and studies on intelligent tutoring systems show measurable learning improvements. The technology works, the demand is proven, and our prototype demonstrates that Ampora can deliver personalized, high-quality STEM education at scale and near-zero marginal cost.

How is your solution superior or different to current solutions to this problem?

Ampora stands out because it combines the clarity of the best educational YouTube creators with the adaptability and scalability of AI, which are something that no current solution offers. Unlike YouTube, where quality varies and coverage is limited to certain topics, Ampora generates StatQuest-level (a top view educational YouTuber) visual explanations for any STEM concept, from linear algebra and probability to algorithms and machine learning, with adjustable pacing and depth. Unlike Coursera or Udemy, which charge $40–200 for static, pre-recorded courses, Ampora creates personalized video lessons in minutes for a fraction of the cost, so students can target exactly the concepts they're struggling with instead of sitting through hours of irrelevant content. Compared to text-only AI tools like ChatGPT, Ampora provides animated, flowchart-style videos with synchronized voiceover and step-by-step progression, turning abstract technical ideas into clear visual stories. It's also far more accessible than private tutoring; Ampora is available 24/7, costing less than $1 per video, and offering consistent visual quality that tutors can't replicate in real time. Even existing AI video generators can't compete: they produce generic slideshows, while Ampora's AI engine builds dynamically structured visual explanations that mirror how students actually learn. In short, Ampora combines affordability, personalization, and visual learning excellence—delivering the teaching quality of StatQuest or 3Blue1Brown, but on-demand, for any STEM topic, anywhere, anytime.

How will/does your audience find out about your project?

We're taking a phased approach to user acquisition that starts hyper-local at Emory and expands outward through organic, community-driven growth. In Phase 1 (Campus Launch), we'll begin within our immediate networks by posting in CS, Math, QTM, PHYS course GroupMe and Discord channels, demoing Ampora live in study sessions, and showcasing side-by-side comparisons between confusing lecture topics, YouTube explanations, and Ampora's clear, StatQuest-style visuals. We'll table in high-traffic spots like the Math & Science Center, Goizueta lobby, and Woodruff Library, and collaborate with professors, TAs, and tutoring centers to recommend Ampora as a supplemental resource, especially to international students who benefit from visual learning. In Phase 2 (Atlanta Expansion), we'll scale to nearby universities like Georgia Tech and Georgia State through student ambassador programs, viral short-form content on TikTok and Instagram (e.g., "POV: you finally understand dynamic programming"), and workshops showing how Ampora transforms abstract concepts into visual stories. In Phase 3 (National Growth), we'll leverage content marketing and partnerships: posting branded sample videos on YouTube and Reddit communities like r/learnprogramming, offering referral incentives, collaborating with university career centers, and sponsoring hackathons. The core marketing of Ampora is that it markets itself. STEM students are extremely online active in tight-knit communities, and eager to share resources that genuinely work. Students who finally grasp a concept after watching an Ampora-generated video will immediately share it with peers. Every public video doubles as a lead generator, allowing new users to organically discover the platform, experience its clarity firsthand, and subscribe to create their own personalized lessons.

How will/do you acquire the funds and resources needed to support this project?

We're building Ampora with a lean, capital-efficient approach focused on validating product-market fit before seeking large external funding. Currently, our team is self-funding development: Sixing "Hardy" Wu has invested $500, Sam Liu $350, and Robert Jarman $150,

totaling $1,000 to cover initial API and compute costs. We're also maximizing free resources like the GitHub Education Pack, Google Cloud student credits, and AWS's free tier, while Robert manages infrastructure deployment using his cloud experience to minimize hosting expenses. Our current burn rate is roughly $100 - 300 per month, primarily for GPT-5 and Claude API usage. From the Siperstein programs, we're competing to win $2,000–3,500 to cover beta-testing API costs, GPU compute time, website hosting, payment processing setup, and limited student outreach, and other resources that would directly accelerate product validation and user growth. By spring 2026, we plan to launch a freemium model with a $30/month standard plan and a $20/month student discount tier, targeting 50 paying subscribers by semester's end. That milestone would generate $1,000–1,500 in monthly recurring revenue against roughly $500 in operating costs, providing a sustainable 2–3x margin for reinvestment. As we scale, per-video costs will fall through bulk API pricing and rendering optimizations. Once we surpass $5,000 in monthly recurring revenue and confirm strong retention, we'll pursue a small pre-seed round ($100K–200K) to hire part-time developers, upgrade visual rendering infrastructure, and expand outreach nationwide. Our strategy is deliberate and grounded: prove that students are willing to pay for personalized, StatQuest-quality visual explanations, then scale from demonstrated traction, not speculation. The Siperstein programs provide exactly the early runway we need to bridge our working prototype into a validated, revenue-generating educational platform.

Tell us about who is working on this project. What makes you (and if applicable) your team the right people to take this problem on?

We're the right team to build Ampora because we're living the exact problem we're solving. We're not consultants analyzing this from a distance, we're STEM students who experience these struggles every day. We've sat in lectures where dynamic programming is explained once in dense notation, then never revisited; we've been the students up at 11 p.m. searching for StatQuest-quality explanations that don't exist for our specific homework topics. Our lived experience gives us an intuitive understanding of what students need and why existing resources fall short. Beyond empathy, we bring a complete and complementary skill set: Sixing "Hardy" Wu combines business strategy, machine learning research, and deep insight into how complex concepts should be structured for learning; Sam Liu brings proven experience building and launching AI-powered products, leading product development, user acquisition, and operations; Robert Jarman provides the technical foundation as a systems engineer and architect, designing the rendering pipelines, flowchart algorithms, and synchronization logic that power Ampora's videos. Together, we can build, launch, and grow this platform entirely in-house. We've already built and shipped complex AI systems before, Sam has launched live AI learning products, Robert has built AI-integrated products, and Hardy's ML research demanded translating intricate theory into accessible explanations. We've also spent hundreds of hours studying creators like StatQuest, 3Blue1Brown, and Fireship to reverse-engineer what makes great educational content effective: progressive visual logic, narrative pacing, and cognitive load alignment, all principles we're embedding into Ampora's design. We're scrappy and resource-efficient, building a fully functional prototype in just two weeks with under $1,000, stretching every dollar because it's our own. Most importantly, we're directly connected to our target users through our involvement in organizations like NSBE, ColorStack, Inroads, Emory's international student community, and entrepreneurship networks, giving us immediate access to hundreds of testers and early adopters. Being current students is our superpower: we're embedded in the community, we know exactly

which STEM topics cause confusion, and we can iterate rapidly with real users who trust us. We have the technical skills to build, the business acumen to scale, the research grounding to ensure quality, and the authentic connection to the user base that makes us uniquely equipped to bring Ampora to life.

What are your goals for the semester?

Our primary goal this semester is to transform Ampora from a functioning prototype into a validated, revenue-generating product with real users and measurable educational impact. By December 15, 2025, we aim to launch a public website where students can create accounts, generate videos, and manage subscriptions. On the product side, we'll refine our video generation engine to consistently produce leading YouTube channels-quality flowcharts with perfectly synchronized audio-visual transitions, integrate Stripe for payments, and add a feedback dashboard so users can rate video quality and pacing. On the user validation front, we plan to onboard at least 30 active beta users (each generating 3+ videos), collect 200+ total video generations to stress-test our system, and achieve at least a 30% conversion rate from free to paid subscriptions, translating to $300+ in monthly recurring revenue. Our quality goals include maintaining an average 4.0/5.0 user rating, ensuring 90%+ synchronization accuracy, and reducing video generation time to under five minutes. Business-wise, we'll validate our $30/month pricing, calculate customer acquisition costs and lifetime value, and gather testimonials that emphasize our visual teaching advantage (e.g., "This is like StatQuest for Reinforcement Learning"). In Spring 2026, our milestones include scaling to 100 active users with 50+ paid subscribers, expanding to nearby universities like Georgia Tech and Georgia State, and reaching $1,000–1,500 in monthly recurring revenue. We'll also introduce new features like interactive flowcharts, practice problem generators, and collaborative study tools while forming partnerships with at least one Emory professor to integrate Ampora into coursework. Our philosophy is simple: ship fast, measure everything, and iterate relentlessly focusing every improvement on one key outcome: helping students understand complex STEM concepts better than any existing resource.

How will The Hatchery Incubator help you achieve your goals? What are your expectations or hopes for your participation in the program?

The Siperstein Programs can help us bridge the gap between being strong technical builders and becoming capable founders who can scale a sustainable, investor-ready company. As a team of STEM and business students, we've proven we can build, we already have a working AI video-generation system, but we now need mentorship and structure to grow intelligently. The Siperstein's guidance on business modeling and pricing strategy will help us validate our $30/month subscription hypothesis, understand retention benchmarks, and explore B2B licensing for universities. On the technical side, we need expert insight into scaling GPU-intensive media applications: optimizing rendering costs, managing queues efficiently, and maintaining consistent quality as user demand increases. The Siperstein's network can also guide our go-to-market strategy beyond Emory, helping us identify effective acquisition channels, campus ambassador frameworks, and partnership models with other universities. We also need support navigating legal and compliance logistics, incorporation, IP ownership of AI-generated content, student data

privacy, and payment compliance, where experienced mentors can prevent costly missteps. As we move toward fundraising readiness, investor mentorship on metrics, valuation, and pitch strategy would be invaluable. By the end of the program, we hope to emerge with a validated business model, a scalable technical infrastructure that can handle thousands of users, clear national expansion strategies, and a professional investor-ready pitch deck. We aim to form partnerships with professors or departments, achieve measurable traction, and confidently position Ampora as a credible early-stage edtech startup rather than just a student project. We're not looking to passively participate, we're ready to execute, iterate, and learn fast. The Siperstein program offers exactly what we need at this stage: mentorship, network access, and structured accountability to accelerate our path from prototype to product-market fit. We're building Ampora regardless, but with The Siperstein's support, we can build it faster, smarter, and with a far greater chance of long-term success.

Additional Section: Social Impact & Educational Equity

Why Ampora Matters Beyond Business: Democratizing STEM Education

Education quality shouldn't be determined by family wealth. Right now, there's a massive equity gap in STEM education that directly impacts who succeeds in tech careers:

The Current Reality:

- Students who can afford $200 Udemy courses, $100/hour private tutors, $2,000 bootcamps, or $15,000 coding intensives get personalized explanations and graduate with strong fundamentals
- Students on financial aid, first-generation college students, international students without extra income, or anyone at under-resourced institutions are stuck piecing together free YouTube videos and hoping for the best
- This isn't a meritocracy - wealthy students have structural advantages that compound over time

The Impact of This Gap:

- Students without access to quality resources develop weaker fundamentals and imposter syndrome
- They're more likely to drop out of STEM programs or avoid challenging courses
- Even if they graduate, they struggle in technical interviews because they never got the deep explanations they needed
- This perpetuates the lack of diversity in tech - only students with financial resources make it through

How Ampora Addresses Educational Equity:

Affordable Access: At $30/month (or $20 with student discount), Ampora costs less than two textbooks or a single tutoring session. This isn't free, but it's accessible to the vast majority of students. More importantly, our free tier (5 videos/month, no credit card required) ensures that students who genuinely cannot afford any subscription still get meaningful help.

Multilingual Support (Future): As international students ourselves, we understand language barriers. Once our English product is solid, we plan to support Spanish, Mandarin, Hindi, and

other languages - helping international students learn in their native language when concepts get difficult.

Partnership with Diversity Organizations: We're committing to providing free premium subscriptions to underrepresented students through partnerships with organizations like:

- ColorStack (supporting Black and Latinx STEM students) – Robert is already a member
- National Society of Black Engineers (NSBE) – Robert is actively involved
- Inroads (Robert is a member)

High School Outreach: Once Ampora is stable at the university level, we plan to partner with Title I high schools to provide free access to students considering STEM majors. Many talented students never pursue STEM because they assume they're "not good at it" - often they just never had access to good explanations.

Measurable Impact Goals for Year 1:

- Serve 500+ students, with at least 40% being first-generation college students, underrepresented minorities in tech, or international students
- Provide 100+ free premium subscriptions to students who demonstrate financial need
- Partner with at least 3 student diversity organizations to directly serve underrepresented communities
- Survey users quarterly to measure impact: Did Ampora improve your grades? Did it reduce your stress about STEM courses? Did it make you more confident about pursuing tech careers?

The Broader Vision:

- Ampora isn't just about generating videos - it's about breaking down the barriers that keep talented students out of tech. Every student who understands dynamic programming because of an Ampora video, every international student who finally grasps operating systems concepts in their native language, every first-gen student who aces their algorithms final because they could afford quality help - that's a student who now has a real shot at a high-paying tech career that can change their family's economic trajectory.
- That's why we're building this. The business opportunity is real, but the social impact is what gets us excited to work on Ampora at midnight when we should be studying for our own exams.