Patent-Pending Academic-Integrated ADHD Digital Therapeutics

For Plug And Play

Fei Fang

fei.aaron.fang@gmail.com

360 869 0169

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Patent-Pending ADHD AI Therapeutic

Problem

7mn K-12 students in the U.S. face an academic crisis...

Snapshot

- Attention Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder characterized by persistent patterns of **inattention**, **hyperactivity**, and **impulsivity**.

- 7 million U.S. children (11% prevalence) and 129 million children worldwide have ADHD.

- Through direct experience as a father of a 9-year-old with ADHD, including consultations with >10 physicians and therapists, conversations with >10 teachers, and parent forums with hundreds of families, the same pattern emerges consistently: *Poor attention leads to academic struggles, which damages self-esteem and motivation, creating a downward spiral that becomes increasingly difficult to break.*

Well-documented issues

- *25%* lower GPA than peers; lower standardized test scores, especially in mathematics

- *32.2%* high school dropout rate vs *15%* for non-ADHD students

- Higher grade retention and special education placement rates

- "*She sat for minutes trying to come up to the answer of 7+2*" - Parent of 2nd grader

- "*All throughout school I was bottom of my class*" - Adult reflecting on childhood

Sources:
1. CDC - Data and Statistics on ADHD. Available at: https://www.cdc.gov/adhd/data/index.html
2. Thomas R, et al. Prevalence of attention-deficit/hyperactivity disorder: a systematic review and meta-analysis. Pediatrics. 2015;135(4):e994-1001.
3. The Lancet Child & Adolescent Health - Non-pharmacological interventions for attention-deficit hyperactivity disorder in children and adolescents. Volume 7, Issue 6, June 2023, Pages 415-428.
4. EndeavorRx Official Website. Available at: https://www.endeavorrx.com/

Problem

...but no existing solution combines therapeutic training with academic skill

Existing solutions

- **Therapists:** $100-200/hour, limited availability, commuting logistics, subjective progress measurement, addresses attention only - not academics.

- **Medications:** Adderall/Ritalin improve attention temporarily. Side effects affect 80% of children taking stimulants: decreased appetite, weight loss, sleep, mood, and growth delays. Most parents hesitate due to these health risks.

- **EndeavorRX:** FDA-cleared digital therapeutic using abstract video games for attention training. Game only, no academic content relevance.

- **Educational apps & general tutoring:** Khan Academy, IXL, and offline tutors lack ADHD-specific adaptations.

Addressable revenues

- Families with ADHD children: **$15,036** annual cost vs **$2,848** for neurotypical families (**5x** higher)

- Annual healthcare cost per ADHD child: **$722-$11,555**

- Direct medical cost difference: **$4,167** more per ADHD child annually

- Global ADHD treatment market 2024: **$15.8bn**, projected to grow to **$47.5bn** in 2032 (**7.3% CAGR**); U.S. represents 2/3 of the spending, with other countries catching up.

Sources:
1. Zhao, X., et al. Family Burden of Raising a Child with ADHD. Journal of Abnormal Child Psychology (2019): https://pubmed.ncbi.nlm.nih.gov/30796648/
2. Economic Burden and Service Utilization of Children With ADHD - ScienceDirect: https://www.sciencedirect.com/science/article/pii/S1098301523061934
3. ADHD Market Size & Share Report - Global Market Insights (2024): https://www.gminsights.com/industry-analysis/attention-deficit-hyperactivity-disorder-market
4. ADHD Drugs Market Report - Credence Research (2024): https://www.credenceresearch.com/report/adhd-drugs-market

Solution

A multi-agent digital system...

A novel approach (U.S. PTO patent-pending since <u>July 4, 2025</u>)

- AI-powered digital system that delivers ADHD therapy through math learning, providing the first solution to combine therapeutic attention training with academic skill development, comprising:

Detection agent

- Monitors attention in real-time by analyzing response times, accuracy, self-corrections, and engagement patterns.

- Classifies attention state as: optimal focus, attention drift, distraction, or cognitive fatigue.

Intervention agent

- Adjusts problem difficulty, session pacing, and interface presentation based on attention state.

- Maintains cognitive load within optimal challenge range; adapts for subtypes (inattentive vs hyperactive).

Economy agent

- Manages motivation through goal-setting, token-based rewards, and progress tracking.

- Enables users to set personal objectives and celebrates achievements to build self-esteem.

Value-add to customers: Enable parents to...

- Save money: Eliminates $100-200/hr therapy cost
- Save time: flexible online sessions; no commute
- Eliminate side effects: no risk on growth/sleep
- Automate work: AI grades & explains problems
- Retain control: Dashboard oversight & reporting
- Measure result: Visible academic skill gains

Solution

...that saves parents' money and improves children's grades

Dual Outcomes

- Therapeutic: Improved sustained attention, focus consistency, distraction recovery
- Academic: Fewer careless errors, higher test scores, better self-esteem & class perception
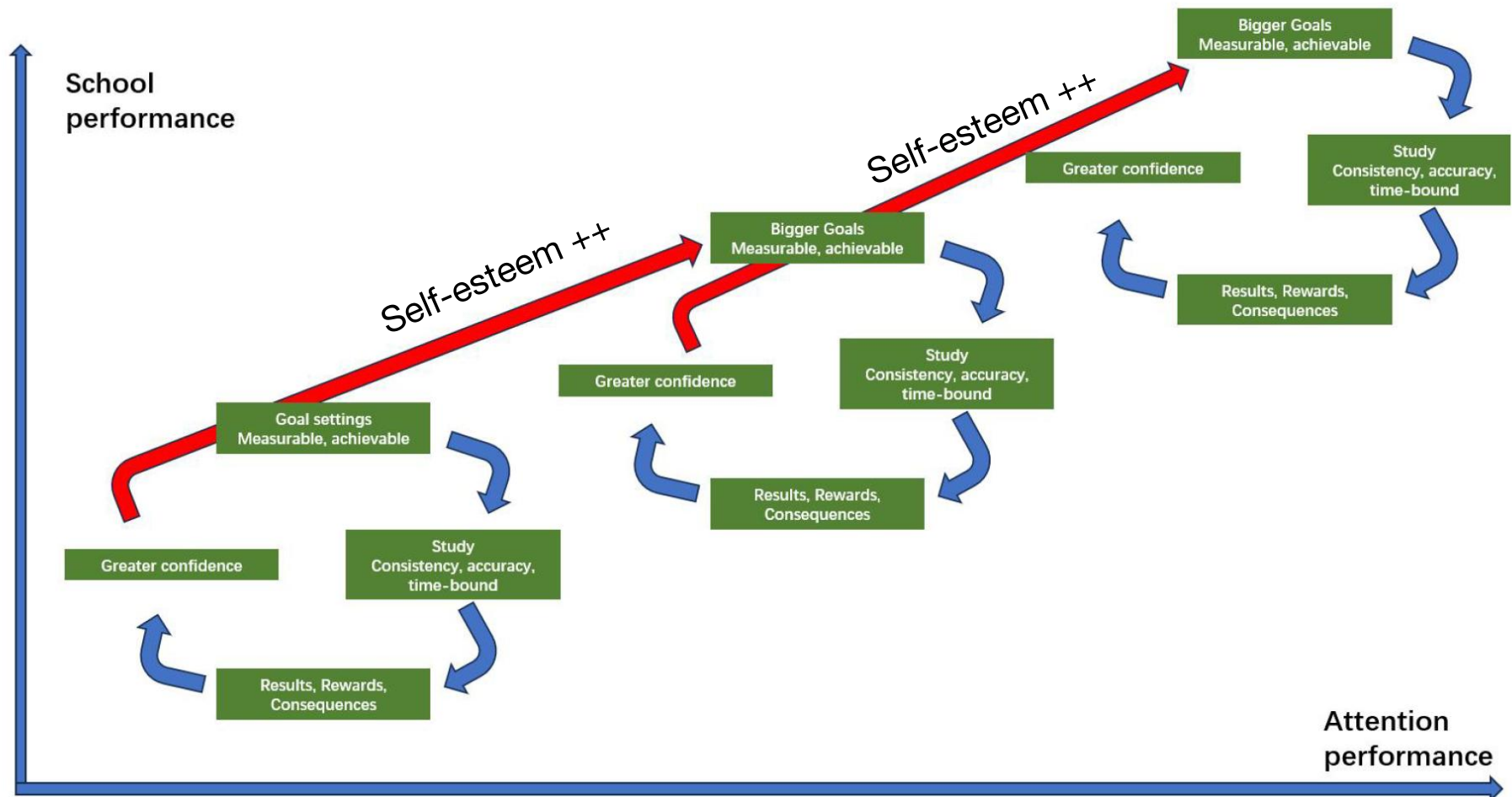
Market

Large addressable market with early digital therapeutic lessons

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Market structure

- Global ADHD treatment: $15.8bn in 2024 at +6% CAGR

- U.S. ADHD treatment: $10.9bn in 2024 at +5% CAGR:

  - Stimulant: $7.7bn/annum

  - ***Non-stimulant & therapies: $3.2bn/annum*** *<-- Target*

- The overall behavioral therapy market in the U.S. has been outpacing ADHD treatment (at 8.4% vs 5% CAGR). Therapy represents a growing component of ADHD treatment as awareness rises.

Case Study: Akili Interactive's EndeavorRx

- First ADHD prescription treatment delivered through a video game; granted **FDA clearance** in June 2020

- Pricing: $450 per 96-day prescription (**$150/month**)

- Revenue: **$383k/quarter** (last disclosure seen in 1Q24)

- Acquired by Virtual Therapeutics for **$34mn** in mid-2024

Takeaways

- Good innovation, poor execution. Pioneered digital therapeutics but made **"bridge too far"** mistake.

- Operating burn at $40mn+ annual expenses (>150 headcount at peak) implying >20X revenues, leading to distressed exit.
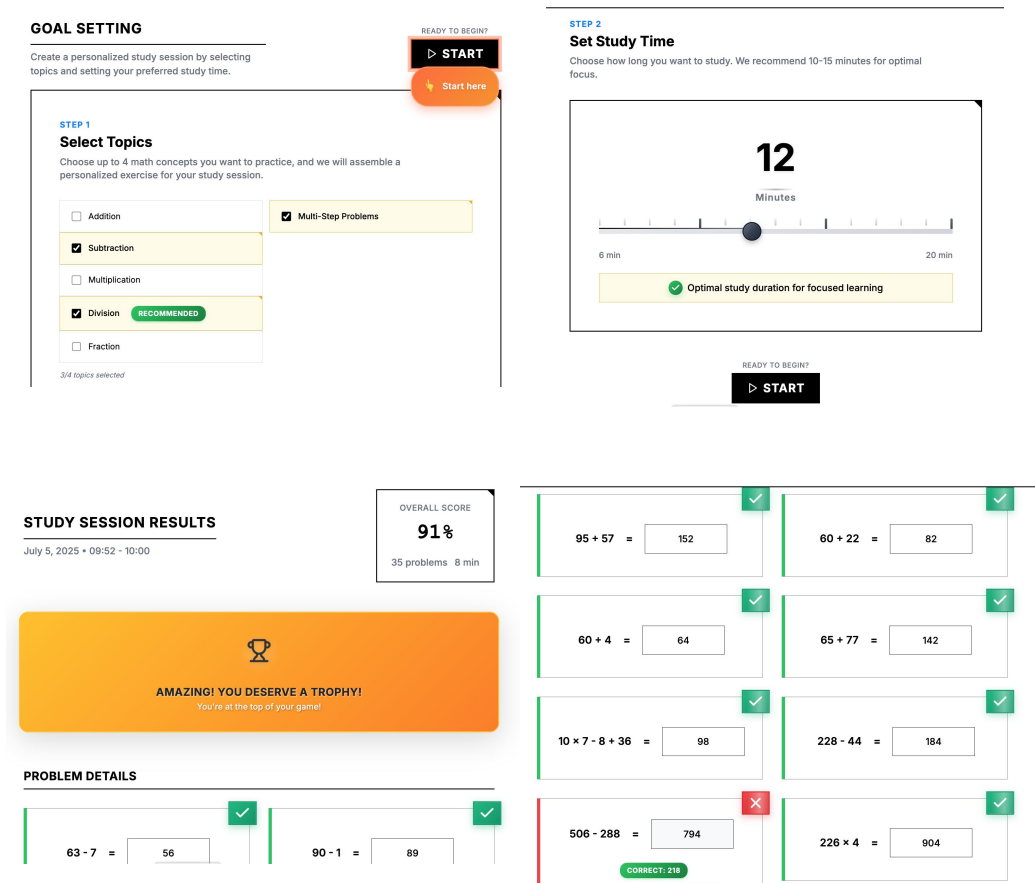
Product

MVP designed for practical use and real results

User journey

- **Step 1: Goal Setting.** Students choose study concepts based on personal needs and past performance. They set session duration. The system provides recommendations intelligently.

- **Step 2: Adaptive Problem Solving.** Students work through problems while AI agents optimize difficulty, pacing, and engagement in real-time based on attention patterns.

- **Step 3: Results & Progress.** Performance breakdown shows score and progress metrics. System celebrates achievements and adjusts future sessions based on results.

MVP screenshots

GOAL SETTING

Create a personalized study session by selecting topics and setting your preferred study time.

READY TO BEGIN?
▷ START

⚡ Start here

STEP 1
Select Topics
Choose up to 4 math concepts you want to practice, and we will assemble a personalized exercise for your study session.

☐ Addition
☑ Subtraction
☐ Multiplication
☑ Division   RECOMMENDED
☐ Fraction

☑ Multi-Step Problems

3/4 topics selected

STEP 2
Set Study Time
Choose how long you want to study. We recommend 10-15 minutes for optimal focus.

12
Minutes

6 min   20 min

✅ Optimal study duration for focused learning

READY TO BEGIN?
▷ START

STUDY SESSION RESULTS

July 5, 2025 • 09:52 - 10:00

OVERALL SCORE
91%
35 problems   8 min

🏆
AMAZING! YOU DESERVE A TROPHY!
You're at the top of your game!

PROBLEM DETAILS

63 - 7   =   56   ✅   90 - 1   =   89   ✅

95 + 57   =   152   ✅   60 + 22   =   82   ✅

60 + 4   =   64   ✅   65 + 77   =   142   ✅

10 × 7 - 8 + 36   =   98   ✅   228 - 44   =   184   ✅

506 - 288   =   794   ❌   226 × 4   =   904   ✅
CORRECT: 218

Team

Experienced tech executive, two career roles at top firms, now committed to entrepreneurship

Fei Fang: *Linkedin: https://www.linkedin.com/in/fei-fang-5158035/*

Tech Leadership

Baidu (China's leading search engine & robotaxi provider)

- Managed 100+ person teams of engineers and marketers

- Head of Baidu Apollo Edu - China's largest autonomous driving AI education software serving colleges and vocational schools

Finance Background

Goldman Sachs (13+ years in equity research & investment)

- Specialized in Internet, education, and EV sectors; headed sector teams

- Expertise in evaluating and strategic analysis of tech companies & market opportunities

Education & Technical Skills

University of Pennsylvania, Wharton School (Class of 2009)

- Bachelor's degrees in Finance and Environmental Science

- Avid programmer: Microsoft Certified Solution Developer since high school; Contest winner in programming competitions; Full-stack development experience (front-end and back-end)

References available

Funding

Seeking partnership

Seeking: Pre-seed partner with vision alignment, industry credibility, and proven track record in digital health

Key Milestones (12-month roadmap)

Team

- Recruit core team of 3 key hires: Product Lead, Marketing Manager, Operations Specialist

Product

- Complete beta testing with initial cohort of ADHD students.

- Launch commercial product featuring core AI therapeutic agents.

Market

- Achieve 1,000+ active users with demonstrated engagement

- Reach >10% conversion rate to paid subscriptions

Strategy

- Direct-to-Consumer: Develop scalable user acquisition channels and growth strategy

- Regulatory Pathway: Explore FDA 510(k) clearance roadmap as Software as Medical Device (SaMD), following EndeavorRx precedent for digital ADHD therapeutics

Funding Target: $200-500k to execute 12-month plan and achieve these critical milestones

Thank you

Fei Fang

fei.aaron.fang@gmail.com

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