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# AI-POWERED STARTUP FUNDING AND MENTORSHIP NETWORK FOR SEAMLESS COLLABORATION

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Abstract: This paper proposes a web-based platform to streamline the startup funding process by integrating Startups, Investors, and Mentors into a unified system. It aims to eliminate friction in the entrepreneurial ecosystem through modular interaction layers that include proposal submission, mentor verification, and investment finalization. The platform supports secure user authentication, detailed business documentation, personalized investment matching, and human-guided negotiation support. Unlike traditional AI-driven platforms, it emphasizes transparent communication, mentor facilitation, and structured documentation to improve trust and reduce decision risk. This system holds significant implications for early-stage startups seeking guided growth opportunities

**Keywords:** Startup Funding, Mentorship, Investor Platform, Entrepreneur Support System, Human-Guided Investment, Digital Ecosystem, Proposal Submission, Business Plan Evaluation, Secure Communication, Commission-based Mentoring

### I. INTRODUCTION

Securing startup funding remains a major challenge due to fragmented communication channels and lack of mentorship. Entrepreneurs struggle to find reliable investors, while investors face difficulty validating business credibility. Traditional digital platforms provide limited support for early-stage ventures that rely heavily on guidance, networking, and phased growth. Many platforms focus on automated filtering without incorporating human judgment or mentorship.

The startup ecosystem demands not just capital but also experienced advisory to shape ideas into viable businesses. Many innovative ideas fail to reach investors due to poor presentation, inadequate preparation, and lack of structured validation. This disconnection is compounded by trust deficits between stakeholders, inefficient communication, and lengthy due diligence cycles. Our proposed solution is a web-based system that enables structured collaboration between startups, investors, and mentors. By assigning roles and responsibilities across three specialized modules, the platform facilitates efficient onboarding, proposal submission, mentoring, and funding. It is designed for usability, scalability, and security, ensuring that each participant has tools to engage meaningfully.

This system integrates user-friendly features such as registration portals, profile management, proposal documentation, and communication channels. With built-in verification and review processes, mentors play a key role in guiding startups and validating submissions. The result is a transparent, human-centered investment environment that supports innovation and reduces risk for all parties involved. Another critical innovation is the platform's modular architecture, which allows for scalability, cross-platform compatibility, and future integration of AI and analytics tools.

The system is built with real-world variability in mind, accommodating different startup domains, investment stages, and mentorship styles. It can be deployed across academic incubators, private investment networks, and government startup programs with minimal customization.By leveraging digital tools for structured collaboration, the system enhances operational efficiency and creates meaningful engagement between ecosystem participants.

The inclusion of secure data management, real-time communication, and user analytics further contributes to a robust and adaptable infrastructure. This project addresses a pressing gap in the startup ecosystem. It combines technology with



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human intelligence to create a seamless funding and mentorship experience, ultimately supporting sustainable innovation and inclusive economic growth.

### II. RELATED WORK

Startup funding platforms have evolved significantly over the past two decades, shifting from manual matchmaking to algorithm-driven investment portals. Early examples like AngelList and SeedInvest popularized online startup listings but offered limited scope for human validation and active mentoring. These platforms prioritized scale and speed over contextual understanding, often overlooking the nuanced nature of early-stage investments. More recent research has focused on integrating artificial intelligence to improve investor-startup matching. Techniques such as collaborative filtering, network analysis, and sentiment classification are used to recommend startups based on user preferences and historical behavior. However, these methods are still data-dependent and cannot fully capture factors such as team integrity, adaptability, and long-term vision—critical elements in funding decisions.

Several academic studies have emphasized the importance of trust and credibility in investor decision-making. Works like Pennebaker et al.'s language analysis models highlight how textual self-descriptions can influence perception, while others examine social proof indicators like endorsements, LinkedIn connections, or media mentions. These insights have led to enhanced profiling algorithms but lack structured human feedback mechanisms. Mentorship, while widely recognized as valuable, remains underrepresented in digital startup platforms. Programs like Y Combinator and Techstars emphasize mentorship but operate in closed cohorts. Few open-access platforms provide continuous mentor engagement from proposal creation through deal closure. Additionally, mentors are typically not compensated directly, limiting their motivation and accountability.

Studies such as Bradic's work on social feedback have shown that investor interest correlates strongly with visibility and perceived traction. Integrating mentorship into digital platforms ensures that startup communication is optimized for such perception, increasing their likelihood of success. Furthermore, structured negotiation tools supported by mentors reduce ambiguity, improve alignment, and shorten decision cycles. Our platform builds on these insights by offering a mentor-integrated workflow, combining AI-powered navigation with human feedback loops. It uses a hybrid model of rule-based screening and domain expertise to ensure proposal quality, minimize bias, and foster trust. Unlike AI-only approaches, it encourages constructive iteration and personalization. While AI and data science have advanced funding tech significantly, the absence of human-centric design limits their real-world impact. By embedding mentorship as a core function, our platform addresses this critical gap and enhances both the quality and credibility of startup proposals.

### III. METHODOLOGY

The methodology follows a modular approach, dividing the platform into three main components: Startup Module, Investor Module, and Mentor Module. Each module contains role-specific functionalities and workflows designed to streamline participation and maximize efficiency. The Startup Module allows new businesses to register, build detailed profiles, upload business plans, and search for compatible investors. Input fields include business description, funding requirements, team bios, pitch decks, and optional product demos. The module includes validation logic to ensure completeness and accuracy before submissions are sent for mentor review.

Investors use a tailored interface to create profiles, define investment preferences (e.g., domain, funding stage, geographic focus), and view verified startup proposals. Smart filters and search capabilities enable efficient opportunity identification. A dashboard summarizes active engagements, communication history, and pending reviews. The Mentor Module plays a pivotal role in quality assurance and user coordination. Mentors are onboarded through a credential verification process and gain access to dashboards where they can view startup proposals assigned for review. They provide feedback, request revisions, and approve or reject submissions. Mentors can also mediate during investor negotiations, offering impartial insights and resolving conflicts.

System architecture is designed for scalability and security. The backend uses SQLite for database operations, while Java powers the business logic. The frontend is built in XML via Android Studio, allowing for intuitive mobile access. The system includes role-based access control, secure authentication, and end-to-end data encryption. An admin interface oversees system integrity, user registrations, and data backups.

Cloud deployment enables continuous availability and remote updates. APIs are available for future integrations such as analytics dashboards, financial tools, or legal contract generators.



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Our development process included stakeholder interviews, iterative UI design, and feedback-driven feature refinement. Usability testing and pilot deployments were conducted in academic incubators and private startup communities. This methodology ensures that each component aligns with the real-world behaviors and needs of startups, investors, and mentors, making the platform practical, accessible, and impactful.

### IV. EXPERIMENTAL RESULTS

To evaluate the platform, a testbed was created with simulated users across all modules. Startup users were onboarded and asked to complete profiles and upload business proposals. Mentors reviewed these proposals, provided feedback, and approved or requested revisions. Investors browsed the reviewed proposals and initiated communication. System performance was evaluated based on key metrics: response time, transaction success rate, and user satisfaction. Login and profile creation averaged under 2 seconds. Proposal submission and file uploads completed within 4 seconds. Investors could apply filters and view startup results in under 3 seconds.

User feedback was collected using structured surveys and open interviews. Startups found the mentor interaction particularly valuable, with 87% reporting improved clarity and focus after revisions. Investors appreciated the validation layer, which saved time and increased confidence. Mentors reported intuitive workflows and effective dashboards. Snapshots and UI captures were documented for user validation. These included Registration, login, proposal submission, mentor review interface, investor dashboards, and admin tools. The screenshots confirmed visual clarity, role separation, and workflow intuitiveness.

Data logs indicated a 95% feature utilization rate across core functions. The most used features were: proposal uploads, mentor feedback forms, and investor filtering tools. Least used were optional chat and scheduling functions, suggesting potential areas for UI enhancement. Stress tests showed stable performance with up to 100 concurrent users. Memory usage and CPU loads remained within optimal thresholds. Backend logs reported no critical errors or data losses. Automated backup and recovery systems functioned correctly during simulated outages.

### V. DISCUSSION

The results validate the core hypothesis that a human-guided platform improves startup-investor collaboration. By integrating mentors into the digital workflow, the system increases proposal quality, accelerates decision-making, and reduces ambiguity. This human-centered approach balances automation with domain expertise. One major strength of the platform is its structured feedback loop. Startups receive actionable guidance before investor engagement, ensuring preparedness and professionalism. This also protects investor time and improves platform credibility. Mentors, as impartial facilitators, ensure fairness, alignment, and conflict resolution.

Another benefit is transparency. Every transaction—upload, review, comment, and approval—is logged and timestamped. This audit trail reduces disputes and creates accountability. It also supports learning by allowing startups to review past feedback and track progress. Despite these benefits, limitations exist. Mentor availability can vary across regions, and compensating them fairly without increasing platform costs is a challenge. In addition, multilingual and cross-cultural support is not yet fully implemented, which can limit adoption in diverse regions.

User engagement metrics also reveal underutilized features, particularly real-time chat and scheduling. This indicates either UI confusion or limited user need. These tools may require redesign or promotion through onboarding tutorials. Integration with external systems (e.g., investment databases, legal document generators) was outside the current scope but represents valuable future work. These tools can further streamline workflows and reduce third-party dependencies. Future enhancements could include AI support for mentor suggestions, predictive success scoring, and smart document generation. Blockchain contracts may improve investor confidence in deal terms. In conclusion, the system offers a meaningful alternative to purely algorithmic platforms. By embedding expert guidance, it increases trust, efficiency, and the likelihood of successful funding.

### VI. CONCLUSION

This paper has presented a comprehensive multimodal emotion recognition system that significantly advances the state-This paper presents a novel digital platform that integrates startups, investors, and mentors into a collaborative funding



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ecosystem. The system addresses key limitations in current platforms by introducing structured mentoring, verified proposal review, and role-based workflows.

Through a modular architecture, the platform supports secure, scalable, and role-specific interactions. It includes user authentication, proposal submission, mentor feedback, and investor filtering. Built on robust backend infrastructure, it is optimized for academic, private, and public sector deployment. Experimentation confirms its effectiveness. Users report improved preparedness, increased trust, and faster deal cycles. System performance is stable and scalable, with intuitive interfaces and strong security protocols. Feedback loops ensure continual learning and improvement.

By compensating mentors, the platform fosters accountability and sustained engagement. Its human-centric design stands in contrast to data-only platforms, offering context-aware decision support. In future iterations, the platform can be expanded with AI tools, multilingual support, and blockchain features. A modular codebase allows for easy integration with APIs and third-party services. This work demonstrates how digital tools can support human intelligence, improve equity in startup ecosystems, and catalyze sustainable innovation. As entrepreneurship becomes more global and inclusive, such platforms will play an increasingly critical role in enabling visionary ideas to succeed.

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