**Capstone Letter of Intent (LOI)**

**II. Project Overview**

**Capstone Project Name/Idea:** **Research Chain** - Decentralized Research Funding Platform

**Brief Project Description:**  
Research Chain is a decentralized platform built on Solana that enables researchers to propose their ideas and receive funding directly from contributors worldwide. It addresses the challenges faced by researchers in underdeveloped countries who struggle to secure funding and ensures transparency by preventing big corporations from tampering with research findings. The platform uses smart contracts to manage milestone-based funding, quadratic voting for fair distribution, and IP-NFTs to protect intellectual property rights.

**Reason for Choosing this Project:**  
India faces big challenges in research funding and transparency. Most researchers, especially in smaller universities, struggle to get funding due to limited budgets and bureaucratic delays. On top of that, private companies often influence research outcomes for profit, which compromises integrity. Below are two articles that you might be interested in that would give you a high level overview as to why I want to make this project  
  
https://www.ey.com/en\_in/insights/education/research-ecosystem-with-in-indian-higher-education-sector

https://www.linkedin.com/pulse/hidden-crisis-indian-research-indias-war-scientific-divakaran-st5kc/



**III. Go-to-Market Strategy**

**Target Audience:**

* **Researchers:** Scientists, academics, and innovators seeking funding for their projects.
* **Contributors:** Individuals, institutions, and DAOs interested in supporting impactful research while earning rewards.
* **Organizations:** Universities, NGOs, and companies looking for transparent ways to fund research.

**Value Proposition:**

* **For Researchers:** Direct access to global funding pools, milestone-based payouts via smart contracts, and permanent IP ownership through NFTs.
* **For Contributors:** Transparent tracking of funds, proportional royalty shares from successful projects, and governance participation.
* **For Organizations:** A tamper-proof system to fund research aligned with their goals while ensuring accountability.

**Marketing and Distribution:**

* Social media campaigns targeting blockchain enthusiasts and academic communities (Twitter, LinkedIn).
* Partnerships with universities and research institutions in underdeveloped countries.
* Content marketing (blog posts, case studies on decentralized science).
* Participation in blockchain conferences like Solana Breakpoint and DeSci events.
* Outreach to DAOs focused on social impact funding.

**Competitive Landscape:**  
While other platforms exist for decentralized science (DeSci), Research Chain differentiates itself through:

* Milestone-based smart contracts ensuring accountability.
* IP-NFTs for transparent ownership of research outputs.
* Focus on empowering underfunded researchers globally.



**IV. Technical Details**

**Tech Stack:**

* **Blockchain Platform:** Solana
* **Smart Contract Language:** Rust
* **NFT Standard:** Compressed NFTs/ IP NFTs
* **Front-End Framework:** React/Next
* **Database:** Arweave/IPFS for storing immutable research proposals and findings.
* **Oracle Integration:** Chainlink oracles for milestone verification.

**Smart Contract Development:**

* Rust will be used to develop robust smart contracts compatible with Solana's ecosystem.
* Comprehensive testing: Unit tests, integration tests, and security audits will ensure reliability.
* Formal Verification: Tools will be explored to mathematically prove the correctness of critical contracts.



**V. Conclusion**

**Project Timeline:**

1. Phase 1(1st week): Develop core smart contracts (proposal submission system, quadratic funding mechanism).
2. Phase 2(2nd week-3rd week): Design tokenomics (governance token distribution, staking rewards).
3. Phase 3(4th week): Launch testnet with pilot researchers from underdeveloped nations.
4. Phase 4(Optional): Build the front-end interface (researcher dashboard, contributor platform).

**Commitment:**  
I am fully committed to completing this project and contributing to the blockchain ecosystem by addressing real-world challenges in research funding and transparency.

**Initials:** AN