Strategic AI Integration for 6G Networks: SAINT Initiative

Addressing STREAM-B08: Reliable AI for 6G Comm. Systems and Services

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December 2023

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S.A.I.N.T. Initiative: Pioneering AI in 6G Networks

- **Objective**: Pioneering strategic AI integration to revolutionize 6G networks, with a focus on personalization, privacy, and efficiency.
- **Core Components**:
  - **On-Device AI**: Prioritizing user privacy and system efficiency, featuring cutting-edge hardware like Apple A17 Pro and Qualcomm Snapdragon 8 Gen 3 chips.
  - **Cloud-Based AI**: Leveraging edge computing for scalable AI tasks, including AR/VR and network monitoring.
- **Alignment with STREAM-B08**: Addressing the call's objectives for realistic, standardized AI applications in 6G networks.

S.A.I.N.T. and STREAM-B08: Synergizing Goals

- **Network Monitoring and Orchestration with LLM**: Utilizing Large Language Models (LLMs) for AI-driven network monitoring, enhancing telecom product development through adaptability and high-level decision-making.
- **Curating a Telecommunication-Specific Dataset**:
  - Developing a comprehensive dataset tailored for telecommunications, training foundational AI models for precise and relevant applications in 6G.
  - Dataset Composition: Incorporating text-based knowledge, deployment logs from actual scenarios, and digital twin simulations to reflect real-world conditions.
- **Blockchain-Based Solutions for Security**:
  - Implementing public key/blockchain technology to mitigate risks such as fake calls and malicious AI-generated content in 6G networks.
  - Strengthening network security against various attack vectors that emerge with generative AI advancements.
- **Trustworthy AI through Federated Learning, Zero-Knowledge ML, and XAI:**
  - **Employing Federated Learning**: Enhancing data privacy and model robustness by distributing AI model training across devices while maintaining data confidentiality.
  - **Utilizing Zero Knowledge Machine Learning Techniques**: Building AI systems capable of proving knowledge or predictions without revealing underlying data, thereby reinforcing trust and security in AI applications for 6G networks.
  - **Incorporating Explainable AI (XAI)**: Ensuring transparency and understandability in AI decision-making processes, crucial for accountability and trust in AI-driven 6G applications.


Collaboration Opportunities

Collaboration Opportunities with S.A.I.N.T. Initiative

- **Current Collaborators**:
  - **Industrial Systems Institute**
    - Prof. Chrysostomos D. Stylios
  - **University of Ioannina**
    - Liagkou Vasiliki
  - **CTTC**
    - Technical Coordinator
- **Seeking New Partners**:
  - **Mobile Operator**: To enhance network implementation and practical integration.
  - **General Project Coordinator**: For overarching project management and coordination.
  - **Open Invitation**: We welcome expressions of interest for joining the consortium.
- **Proposal Budget and Partnering Details**:
  - **Budget**: The proposal budget is set at 3 million euros.
  - **Partner Search**: Currently seeking 3 more partners to join and enrich the project.

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