IEEE ICDCS 2022 Workshop
DINPS: Decentralized Internet, Networks, Protocols, and Systems
10-13 July 2022 - Bologna, Italy
Web: https://research.protocol.ai/sites/dinps/

Call for Papers - DINPS

With the emergence of the Web3.0 paradigm as well as the increasing exploration of naturally decentralized computation paradigms as in edge computing, decentralized systems are becoming increasingly relevant. This field is thriving thanks to recent technological advances demonstrating the feasibility of decentralized systems at scale. Existing approaches include blockchain-based systems as well as systems like the InterPlanetary File System (IPFS), a peer-to-peer, content-addressable hypermedia protocol that seeks to connect all computing devices within a single distributed system of files. IPFS is additionally complemented by Filecoin, a token-based protocol that supports an incentivized, decentralized storage and delivery network, among others. These projects are open-source and community-driven with reference implementations in multiple languages and a global community of millions of users.

This workshop aims to bring together researchers and practitioners in the fields of decentralized systems, peer-to-peer networks, and edge computing. Now is the time to leverage our expertise and discoveries in this area to define the future of the decentralized Internet: this includes work on underlying technologies and protocols, emerging standards, tools and abstractions (such as the ones provided by IPFS, libp2p and Filecoin), and also emerging applications and use-cases.

The workshop will consist of a number of different sessions and session styles that go beyond the traditional presentation-centric workshop. We seek to foster interaction between participants with hands-on sessions that will give them first-hand knowledge of how to use IPFS and Filecoin and interact with these technologies, as well as ecosystem project platforms. A capstone competition will give attendees the chance to develop open-source applications and win prizes.

Topics of interest include but are not limited to:

- Architectural proposals for the advancement of the state of decentralized Internet services.
- Decentralized and peer-to-peer protocols and applications
- Edge computing — with emphasis on decentralized solutions for the far edge and their integration with current Internet architectures
- Design, implementation, and evaluation of decentralized, networked systems and CDNs
- Socio-economic, legal, and/or regulatory aspects of content-addressable, permissionless, P2P networks
- Privacy and security of decentralized storage and delivery systems
- Applications that build on top of decentralized network storage and retrieval protocols
- Measurement studies on decentralized and edge computing infrastructures
- Improvements to the IPFS protocol stack, libp2p, or the Filecoin storage and (especially) retrieval protocol from a performance, privacy, or security perspective
- Cross-layer optimization between network- and decentralized service/application-layer protocols (e.g., consensus, pubsub, etc)
- Pubsub protocol performance and security improvements for decentralized, blockchain-based systems (e.g., Gossipsub)

The workshop welcomes contributions in the following forms:

- **Work-in-progress papers** (limited to 6 pages) presenting early findings and visionary protocol development directions.
- **Demos** (limited to 2 pages) showcasing a proof-of-concept prototype.
- **Tutorials** (up to 2 pages description) which will be part of the hands-on session to demonstrate emerging technologies or applications to build and deploy decentralized systems. Tutorials are expected to last up to 45 min.
- **Competition project ideas** (limited to 1 page) to be included in the 3-week post-workshop competition.

Important Dates

- Submission Deadline: **5 March 2022**
- Acceptance Notification: **5 April 2022**

Organizing Committee

- João Leitão, Universidade Nova de Lisboa, PT
- Yiannis Psaras, Protocol Labs

Tentative Technical Programme Committee

- Dimitris Chatzopoulos, University College Dublin, IE
- Thomas Hardjono, MIT, US
- Hidehiro Kanemitsu, University of Tokyo, JP
- Michal Krol, City University of London, UK
- Thibault Maunier, Cloudflare, FR
- Sonia Ben Moktar, CNRS, FR
- Hidenori Nakazato, Waseda University, JP
- Joerg Ott, TUM, DE
- Aravindth Raman, Telefonica, ES
- Alfonso de la Rocha, Protocol Labs
- Lorenzo Saino, Fastly, UK
- Nuno Santos, INESC-ID, Technical University of Lisbon, PT
- Will Scott, Protocol Labs
- Florian Tschorsch, TUB, DE
- Gareth Tyson, HKUST, HK
- Spyros Voulgaris, AUEB, GR