The MEV Letter

is a weekly collection of papers, articles and resources related to MEV. The intention of this letter is to provide a comprehensive summary of the latest research, discussions, and developments in the space, with links for further reading.

Papers & Articles

- mev-commit whitepaper by Primev introduces insured commitments

as a way to enable robust guarantees for preconfirmations, instant cross-chain bridging, and more. *Thread by Primev

- Thread by Primev
- Introduction to MEV Mitigation by Julian Ma explores efforts to mitigate MEV through in-protocol and out-of-protocol techniques, detailing their limitations, trade-offs, and impact.
- Thread by Julian Ma
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- Agent-based Simulation of Execution Tickets by Pascal Stichler evaluates the design space of ETs, analyzing their potential to improve validator decentralization and MEV mitigation.
- Thread by ephema
- Workshop: Agent-based modeling of Execution Tickets by Pascal Stichler
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- Workshop: Agent-based modeling of Execution Tickets by Pascal Stichler
- Bringing privacy to EVM applications using confidential computing via co-processorsby Nitanshu Lokhande and Rishabh Gupta explores ways to incorporate privacy into existing Defi applications using PETs like FHE.
- ERC-7683: Unifying Ethereum With Cross-Chain Intents by Arbnom outlines how ERC-7683 creates a unified framework for defining, disseminating, and settling cross-chain intents.
- Thread by 2077 Research
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- Inclusion List Committee Selection in FOCIL by Terence Tsao compares three potential approaches for selecting an inclusion list committee in FOCIL.
- Verifiable Autonomy: Engineering Trust Between Humans and AI Agents through TEEsby Freysa outlines a framework to verify AI agent autonomy using TEEs.

Posts & Threads

- Logarithmic Rex published a thread exploring shared sequencing, based rollups, and other techniques to sequence transactions on rollups.
- Nixo.eth published a thread summarizing the R&D-workshops hosted by Ethereum Foundation before and after Devcon SEA on topics such as ePBS, FOCIL, SSF, and more.
- Toni Wahrstätter published a thread arguing for validators to raise the gas limit to 36M.
- Dankrad Feist published a thread explaining how the gas limit is set by validators, and the recent support for raising it to 36M.

Talks & Discussions

- Columbia CryptoEconomics (CCE) Workshop 2024 hosted by Briger Family Digital Finance Lab at Columbia Business School, School of Engineering and Applied Science at Columbia University, and Ethereum Foundation:
- Priority is All You Need by Dan Robinson
- Lazy Sequencing Rules for Rollups by Itamar Reif

- PROF: Protected Order Flow in a Profit-Seeking World by Ari Juels
- Directions in L2 MEV Minimization by @dmarz
- Attributing Block Value by @Quintus
- Absolute Commitments, Game-theoretic Attacks on the Fundamental Functioning of Blockchain Infrastructure by Daji Landis
- Centralization in Attester-Proposer Separation by Max Resnick
- Searching in TDX by @angelfish
- L2 Asset Interoperability via Two-way Canonanical Bridging by Wei Dai
- Futarchy, Today by Alex Hajjar
- Bitcoin Staking by David Tse
- Robust Restaking Networks by Naveen Durvasula
- Mesh Security by Sunny Aggarwal
- The Economics of Censorship Resistance and MCP by Mallesh Pai
- Brave New World Computer (the Future of CR on Ethereum) by Thomas Thiery
- FOCIL/BRAID by Pranav Garimidi
- Revisiting the Primitives of Transaction Fee Mechanism Design by Matt Weinberg
- Transaction Execution Mechanisms by Abdou Ndiaye
- What Is EIP-1559 (and 4844) Actually Doing? by Theo Diamandis
- Fair Combinatorial Auction for Trade Intents by Andrea Canidio
- A Review of the Current Intents Landscape: Striving for User-Friendliness and Mass Adoption of Crypto by Omar Zaki
- Building a Trustless Async Program Compiler for Fun and Profit by Sam Hart
- Secure Cross-Rollup Communication with the Scroll Interop Gadget by Sarah Azouvi
- Maximum Viable Security (MVS): a New Framework for Ethereum Issuance by Artem Kotelskiy
- Macro Panel with Jon Charbonneau, Dankrad Feist, Justin Drake, Jonah Burian, and Max Resnick
- Notes by =avi;
- Notes by =avi;
- Notes by Barnabé Monnot
- Priority is All You Need by Dan Robinson
- Lazy Sequencing Rules for Rollups by Itamar Reif

- PROF: Protected Order Flow in a Profit-Seeking World by Ari Juels
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- The Twenty-Fifth ACM Conference on Economics and Computation (EC'24) hosted by SIGecom:
- Tutorial: Transaction Fee Mechanism Design
- Part 1: TFMs for a Single Block by Hao Chung
- Part 2: Dynamics TFMs by Matheus V. X. Ferreira
- Part 3: Extensions to the TFM frameworks by Yotam Gafni
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- Tutorial: Automated Market Makers
- Part 1: AMMs and the multiple facets of LVR by Jason Milionis
- Part 2: Mathematical characterization of the design space by Ciamac Moallemi
- Part 3: Characterizing LVR in a Black-Scholes-style model by Tim Roughgarden
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- (De)centralization of Ethereum's builder market by Fan Zhang
- MEV, Blockspace Allocation and Tullock Contests by Tim Roughgarden
- Beyond Multi-Dimensional Fee Markets by Naveen Durvasula
- Multidimensional Blockchain Fees are (Essentially) Optimal by Guillermo Angeris

- Loss-Versus Fair: Efficiency of Dutch Auctions on Blockchains by Ciamac Moallemi
- Optimal automated market makers:Differentiable economics and strong duality by Zhou Fan
- A General Theory of Liquidity Provisioning for Automated Market Makers by Adithya Bhaskara
- Revisiting the Primitives of Transaction Fee Mechanism Design by Clayton Thomas
- The Geometry of Constant Function Market Makers by Guillermo Angeris
- Collusion-Resilience in Transaction Fee Mechanism Design by Hao Chung
- Barriers to Collusion-resistant Transaction Fee Mechanisms by Yotam Gafni
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- Barriers to Collusion-resistant Transaction Fee Mechanisms by Yotam Gafni
- Intents & Chain Abstraction Summit hosted by OneBalance and Anoma:
- Chain-Free Web3 by Stephane Gosselin
- Panel: WTF is Cross Chain AA with Ankit Chiplunkar, Will Hennessy, TABASCOweb3, danielb.eth, and bryce
- Panel: WTF Are General Intents? with Adrian Brink, apriori, Kevin Wang, Simon, and 0xkaiserkarel
- Panel: Chain Abstracted Apps with Euclid, Dev, Alexander, Matt Rice, Vaibhav, Jed, and Tellus

- Panel: Intent-Centric Applications Beyond DeFi with apriori, Nathan Worsley, Michael Ruzic-Gauthier, @sxysun , and Julio Linares
- Anoma's Roadmap to Mainnet by Christopher Goes
- Panel: Spicy Chain Abstraction with Christopher Goes, Dev, and Sam Hart
- Panel: Intents & Solvers Are Just ASS (App Specific Sequencing) with Dex Chen, Ludwig Thouvenin, Lily Johnson, and apriori
- Panel: The Future of Solving with Connor, Peter, Katia Banina, Philipp Zentner, and Markus Schmitt
- Panel: Superchain vs Chain Abstraction with Daniel Worsley, Arjun, and Noah Pravecek
- Unifying Ethereum Through Intents and ERC 7683 by Hart Lambur
- Panel: Intents vs AMB / GMP with Hart Lambur, Arjun, Philipp Zentner, and os
- Panel: Intents & Chain Abstraction Endgame with Stephane Gosselin, Sam Hart, apriori, Peter, Christopher Goes, and Hart Lambur
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- Notes by OneBalance
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- FOCIL Break Out Room 1 hosted by Thomas Thiery discussed coordinating efforts related to implementing EIP-7805, aiming to have a devnet live at the end of January.
- Agenda and notes by Matthew Keil
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- Commit-Boost Community call #002 hosted by Alex Stokes covered the latest updates related to Commit-Boost, including the recent audit by Sigma Prime.
- Agenda by Drew Van der Werff

- Notes by Sam Jernigan and Sam Bobitz
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- Notes by Sam Jernigan and Sam Bobitz
- Stakeholder Meeting on Next Generation TEEs hosted by Poetic Technologies invited stakeholders to discuss their work and the future of autonomous TEEs:
- Poetic Technologies by Julio Linares
- Fabric Cryptography by Michael Gao
- Flashbots by @Quintus
- PBS Foundation by Chris Haug
- Poetic Technologies by Julio Linares
- Fabric Cryptography by Michael Gao
- Flashbots by @Quintus
- PBS Foundation by Chris Haug
- The Rollup: Why Based Rollups Are Ethereum's Best Bet invites Sam Battenally to discuss based rollups, cross-chain interopability, and RISE Chain.

Other

- Notice to relay.flashbots.net users: JSON-RPC Compatible Errors Coming January 9, 2025 by @tymur details an upcoming change to upgrade relay.flashbots.net to JSON-RPC compatible errors on Jan 9th.

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