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

- [State of Wallets 2024](#) by [@tesa](#) illuminates the current state of wallets on Ethereum, detailing trends in order flow dynamics, account abstraction, and more.

- [Thread](#) by [Tesa Ho](#)

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- [No Fish Is Too Big for Flash Boys! Frontrunning on DAG-based Blockchains](#) by [Jianting Zhang](#) and [Aniket Kate](#) details three novel frontrunning attacks in DAG-based blockchains, and potential countermeasures.

- [Post](#) by [Aniket Kate](#)

- [Post](#) by [Aniket Kate](#)

- [Research Directions for Verifiable Crypto-Physically Secure TEEs draft](#) by [Sylvain Bellemare](#) explores methods to secure TEEs from physical attacks and reduce trust in chip manufacturers and cloud providers.

- [Post](#) by [Sylvain Bellemare](#)

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- [Honest MEV: a Theoretical Perspective](#) by [Togzhan Barakbayeva](#), [Soroush Farokhnia](#), [Amir Goharshady](#), and [Sergei Novozhilov](#) discuss ways to optimize block building, showing success on [Bitcoin](#) and [Cardano](#) but facing challenges with Ethereum's transaction model.

- [Aestus Timing Games as a Service](#) by [Aestus Relay](#) describes the Aestus Relay's approach to MEV-Boost timing games as a service, designed to close the gap between sophisticated and unsophisticated node operators.

- [Thread](#) by [Aestus Relay](#)

- [Thread](#) by [Aestus Relay](#)

- [Debunking Common Misconceptions About Timeboost](#) by [Ed Felten](#) aims to clarify misconceptions about [Timeboost](#)'s effects on MEV and transaction ordering in the Arbitrum ecosystem.

- [LVR VS IL: the end-game for AMM design is the marriage between retail investors and liquidity providers](#) by [Andrea Canidio](#) describes how CoW AMM allows LPs to earn trading fees, minimizes portfolio volatility, and avoid impermanent loss.

- [Thread](#) by [Andrea Canidio](#)

- [Thread](#) by [Andrea Canidio](#)

- [Proposer-Commitment Infrastructure in Ethereum](#) by [Simon Brown](#) explores emerging out-of-protocol solutions for proposer commitments like inclusion lists, preconfirmations, and blockspace futures.

- [My Journey Scaling Ethereum: Introduction to My Work with the PBS Foundation](#) by [Chris Spannos](#) describes their research on optimizing PBS for L2s in order to address challenges related to MEV and decentralization.

- [Post](#) by [Chris Spannos](#)

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- [On solo staking, local block building and blobs](#) by [Toni Wahrstätter](#) discuss the trade-offs related to increasing blob throughput and whether it should be pursued for Pectra.

- [Inclusion list and out of protocol market risks](#) by [Terence Tsao](#) explores the challenges of inclusion list designs and the risks of out-of-protocol markets undermining transaction priority fees and not getting adoption.

- [Transaction invalidation complexity in FOCIL](#) by [Terence Tsao](#) documents transaction invalidation scenarios in [FOCIL](#) and raises questions on how they could impact block producers or verifiers.

- [Three Transactions, Making Two Unique Types of Sandwiches by Upgraded Jaredfromsubway.eth](#) by [EigenPhi](#) describes the techniques used by Jaredfromsubway.eth to successfully execute Swap-JIT-, and Split-Front-Run

sandwich attacks.

- [Thread](#) by [EigenPhi](#)

- [Thread](#) by [EigenPhi](#)

- [Why We Need to Fix DeFi: Addressing the CVMM Problem](#)by [Arrakis Finance](#) highlights how MEV and intent-driven order flows are harming retail LPs, and how HOT AMM aims to protect LPs.

- [Thread](#) by [Arrakis Finance](#)

- [Thread](#) by [Hilmar](#)

- [Thread](#) by [Arrakis Finance](#)

- [Thread](#) by [Hilmar](#)

- [The Hybrid Order Type Automated Market Maker (HOT-AMM)](#)by [Valantis Labs](#) details how Private Market Makers are outcompeting AMMs by attracting more profitable order flow, and how HOT AMM is designed to mitigate LVR and protect LPs.

- [Thread](#) by [Valantis Labs](#)

- [Thread](#) by [Valantis Labs](#)

Posts & Threads

- [Azuki](#) published a [thread](#) announcing a collaboration with [Flashbots](#) to demonstrate how TEEs can enable novel interactive onchain experiences, and an upcoming live [Magic show](#) on October 10th.

- [Teleported Bobu post](#) by [DGTL](#)

- [Thread](#) by [@Hasu](#)

- [Thread](#) by [Charlie G](#)

- [Teleported dmarz post](#) by [Charlie G](#)

- [Teleported dmarz post](#) by [Charlie G](#)

- [Teleported Bobu post](#) by [DGTL](#)

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- [@shea](#) published a [thread](#) exploring why a [38 ETH transaction](#) was only included by a Flashbots builder, despite being visible in the mempool by other builders.

- [@stephen](#) published a [series of threads](#) unraveling various searcher strategies via the[EigenPhi](#) explorer.

- [Day 7: Thor sandwich / arb combo](#)

- [Day 8: Edges in Liquidations](#)

- [Day 9: 1inch sandwiches](#)

- [Day 10: "Not exactly a swap, but actually a swap"-sandwich](#)

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- [Day 10: "Not exactly a swap, but actually a swap"-sandwich](#)

- [MevRefund](#) published a [thread](#) to highlight how the searcher 0x991 frontran a seemingly[private shezmu hack](#) for 250

ETH, and a private Mev Blocker transaction for another 249 ETH.

- Sylvain Bellemare published a post exploring whether TEEs can be compared to ZKP, FHE, or MPC and discusses the challenges of creating verifiable, crypto-physically secure TEEs.

Talks & Discussions

- Recordings from Epoch Singapore and Epoch Seoul hosted by moa and a41 have been uploaded with talks and panels on MEV, PBS, DEX design, and more.

- Enter the Dark Pool by @Tomasz

- Redefining Transaction Speed with @tesa, Harry Gao, and Kevin Lepsoe

- Future of Block Building with @tesa and Max Resnick

- BRAID: Implementing Multiple Concurrent Proposers in Ethereum by Max Resnick

- How App-Specific Sequencing enables Fat-App Thesis by Yuki Yuminaga

- Gas Markets: A New Era for Validators by Kevin Lepsoe

- Preconf from the Lens of Block Space Futures by Harry Gao

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- Flashwares VIII: Dstack meets on-chain PCCS and ZK SNARK proofs of attestations invites @socrates1024 to present Dstack: speedrunning a p2p Confidential VM, and Deli Gong and Chua Zheng Leong to present DCAP library v4, On Chain PCCS and DCAP Rust Library.

- Forum post by @mateusz

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- Indexer Podcast: The MEV Secrets You Don't Know w/ Brontes [PBS Series EP3] invites Joseph Noorchashm and Ludwig to discuss MEV, DEX design, and Brontes.

- Thread by Indexer Podcast

- Thread by Indexer Podcast

- Unaligned Day 2024: The High Gwei to Hell by Max Resnick outlines the shortcomings of EIP-1559, and research on Dynamic Transaction Fee Mechanism Design.

- The Rollup: App-Specific Sequencing (ASS) & LVR Technical Debate invites Yuki Yuminaga and Alex Nezbolin to discuss LVR, MEV, and Application-Specific Sequencing.

- Post by The Rollup

- Post by The Rollup

- The Rollup: Are Based Rollups Really Based? invites BREAD, Cecilia Zhang, Sam Battenally, and mteam for a conversation on the current state of based rollups, their benefits, and how things might evolve from here.

- Post by BREAD

- Post by BREAD

- Intents and Cross-Chain Interoperability with apriori, Hart Lambur, Sergey Gorbunov, Arjun Bhuptani, 0xkaiserkarel, Arjun Chand, and Christopher Goes discuss the intent landscape and cross-chain Interoperability.

Other

- [Contribute to Xatu: Join the Community Data Collection Effort](#)by [ethPandaOps](https://ethpandaops.io/) details how Ethereum home stakers can contribute data to the Xatu dataset securely and anonymously.
- [Thread](#) by [ethPandaOps

](https://ethpandaops.io/)

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