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.

See our Transparency Reports for deeper dives into updates related to Flashbots.

Papers & Articles

- Order but Not Execute in Order by Tiantian Gong and Aniket Kate presents a market design to mitigate order manipulations by using order-fair atomic broadcast (of-ABC) and frequent batch auction (FBA).
- Measuring the Concentration of Control in Contemporary Ethereum by Simon Brown introduces a model for measuring the decentralization of blockchains over time.
- EIP-4844 Economics and Rollup Strategies by Davide Crapis, Akaki Mamageishvili and Ed Felten study the economics of EIP-4844 by modeling the cost of a rollup as the sum of blob posting costs and delay costs.
- Thread by Akaki Mamageishvili
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- Should Ethereum be okay with enshrining more things in the protocol? by Vitalik Buterin delves into whether the Ethereum protocol should enshrine features such as account abstraction, zkEVMs, PBS, and liquid staking.
- Thread by ballsyalchemist
- Thread by YQ
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- Resistance is ~not~ futile; CR in mev-boost analyzes existing proposals to improve the censorship resistance of MEV-Boost and introduces relay-constructed inclusion lists

as an interim solution to mitigate builder censorship. *Thread by Mike Neuder

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- Unleashing the Data Insights: Analyzing the Development of ERC4337 by Sixdegree Lab looks at the first six months of onchain data related to the adoption and progress of ERC-4337.
- Thread by Sixdegree Lab
- Thread by Sixdegree Lab
- An Incomplete Primer on Intents by Emperor gives an overview of the current landscape of intents-based applications and explores what an intent resolution architecture could look like where intents are expressed in natural language.
- Intent-based protocols pt1: unfolding UniswapX by apriori dives into intents and how UniswapX is designed to improve routing, internalize MEV, and facilitate trust-minimized cross-chain swaps.
- Big Block Diffusion and Organic Big Blocks on Ethereum by Leonardo Bautista-Gomez and Csaba Kiraly analyze the global propagation time of blocks bigger than 250KB and show that the Ethereum network can accommodate blocks above 1 MB, which will be the norm after EIP-4844.
- F3B: A practical per-transaction front-running mitigation solution for blockchain by Haoqian Zhang provides an overview of Flash Freezing Flash Boys

(F3B) aimed to mitigate front-running by using threshold cryptography. *Paper by Haoqian Zhang, Louis-Henri Merino, Ziyan Qu, Mahsa Bastankhah, Vero Estrada-Galinanes, Bryan Ford

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Posts & threads

- Blocknative published a post announcing the suspension of their MEV-Boost relay and builders effective September 27th, and their Relay Data API effective October 4th.

- Notice to Protect users: Planned changes to “rpc.flashbots.net/fast” by Shea Ketsdever announce an upgrade to Flashbots Protect that will make “fast”-mode even faster starting from October 11th.
- Thread by Shea Ketsdever
- Thread by Shea Ketsdever
- Andy published an update highlighting the winners of the Flashbots prizes during the ETHGlobal New York hackathon.
- Valentin published a post to announce a grant from Flashbots to continue the development of mev.fyi and build a LLM-based search engine.
- Making Flashbot Relay stateless with EIP-x by Sogol Malek proposes a stateless light client design for MEV-Boost relays to mitigate network spam and optimize resource usage through ZKPs.
- Alex Watts published a thread that summarizes their talk at All For Staking on the intersection of MEV and account abstraction.
- Based Rollups and Decentralized Sequencing (Twitter Spaces wrap-up) by Lisa A. | bot provides a summary of last week’s Twitter space hosted by Taiko.
- Taker published a thread announcing searcher.dev - a dedicated place to crowdsource and share solver-related opportunities, interesting tools, and relevant reading materials.
- Triv (トリブ) published a thread with stories from their journey as a searcher on L2s and alt-L1s.
- duoxehyon published a thread on a latency battle they fought on Arbitrum Nova against other arbitrage searchers.
- Will Hennessy published a thread to explore how ERC-4337 works by defining User Operations, Bundlers, Paymasters, Aggregators and more.
- Noam Hurwitz published a thread on how to calculate gas fees for ERC-4337 operations on Arbitrum and Optimism.

Talks & Discussions

- Permissionless II:
- Panel: How to Build a Block with Matt Cutler, Tarun Chitra and Dan Marzec discuss the past, present, and future of block building, MEV, and PBS.
- Panel: The Roadmap to Shared Sequencing with Josh Bowen, Patrick McCorry, Ben Fisch, Juan Gadea and Dougie DeLuca discuss rollup sequencers and how they can be decentralized and shared across multiple domains.
- Panel: The Sci-Fi Roadmap to Ethereum with Dankrad Feist, Ansgar Dietrichs, Preston Van Loon and David Hoffman gives an overview of EIP-4844, the future of the EVM, and validator economics.
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- The Bell Curve:
- DEXs: Uniswap Origin, Intents, Scaling, and LVR with Michael Ippolito and Dan Robinson discuss the origin story of Uniswap, hooks, intents, LVR mitigation and more.
- The LP Profitability Problem: LVR, Dynamic Fees and Auctions with hosts Michael Ippolito and Dan Robinson invite Alex Nezlobin and Jason Milionis to unpack what LVR is and how auction design and dynamic fees can reduce LVR.
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- Protocol Berg: The Blockspace Expo with Barnabé Monnot, Robert Habermeier, Jannik, Sam Hart and Christopher Goes dives into the current state of blockspace on various domains and how the transaction supply chains might

evolve going forward.

- Empire: Wallets and MEV: Decoding Ethereum's Supply Chain invites Matt Cutler to discuss PBS, account abstraction, intents, and the future of wallets.
- Scraping Bits: The Journey Of A Successful Solo MEV Searcher invites Shunshow, a solo MEV searcher, to dive into both the technical aspects and ethical questions surrounding MEV extraction.
- ETHconomics at Devconnect with Barnabé Monnot, Julian Ma and Christine Kim to discuss all things ETHconomics ahead of the Devconnect event on November 15th.

Other

- A new searching guide has been published to the Flashbots documentation providing a step-by-step tutorial on how to set up a flash loan arbitrage bot on MEV-Share.
- Thread by Shea Ketsdever
- Live walkthrough by Scott Bigelow
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- Hindsight by brock is an WIP arbitrage simulator written in Rust that estimates the historical value of Uniswap V2/V3 and SushiSwap MEV from Flashbots MEV-Share events.
- Thread by brock
- Thread by brock
- Holešky testnet is live, replacing Goerli as the testnet for staking, infrastructure and protocol-development.
- Post by Barnabas Busa
- Post by Barnabas Busa
- Rundler (Rust Bundler) by Alchemy is a modular ERC-4337 Bundler written in Rust.
- Thread by Alchemy
- Thread by Alchemy
- permissionless.js by Pimlico is a TypeScript library built on viem for interacting with ERC-4337 Bundlers, Paymasters, and User Operations.

Upcoming events

- Oct 5th: MEV-Boost Community Call #6 hosted by Alex Stokes invites the MEV-Boost ecosystem to go over Deneb updates, open questions, and new proposals.

[Sign up here

](https://forms.gle/Qr6MEUkVa13TDipW6) if you'd like to get The MEV Letter straight to your inbox!

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