Stake Programming

To maximize stake distribution, decentralization, and censorship resistance on the Solana network, staking can be performed programmatically. The team and community have developed several on-chain and off-chain programs to make stakes easier to manage.

Stake-o-matic aka Auto-delegation Bots[#](#)

This off-chain program manages a large population of validators staked by a central authority. The Solana Foundation uses an auto-delegation bot to regularly delegate its stake to "non-delinquent" validators that meet specified performance requirements.

Stake Pools[#](#)

This on-chain program pools together SOL to be staked by a manager, allowing SOL holders to stake and earn rewards without managing stakes. Users deposit SOL in exchange for SPL tokens (staking derivatives) that represent their ownership in the stake pool. The pool manager stakes deposited SOL according to their strategy, perhaps using a variant of an auto-delegation bot as described above. As stakes earn rewards, the pool and pool tokens grow proportionally in value. Finally, pool token holders can send SPL tokens back to the stake pool to redeem SOL, thereby participating in decentralization with much less work required. More information can be found at the SPL stake pool documentation .