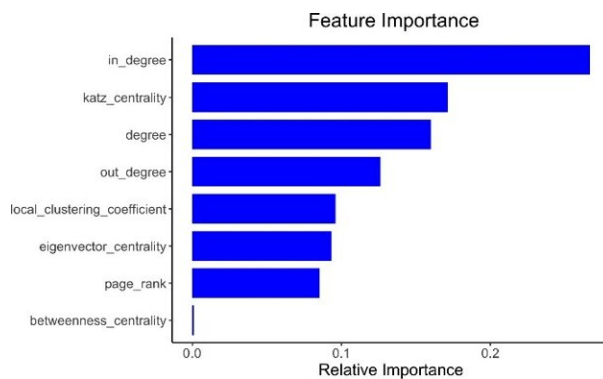
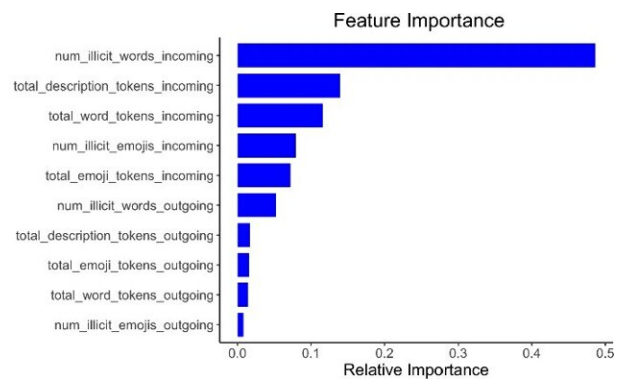


Digital payment platforms can easily be misused for drug dealing

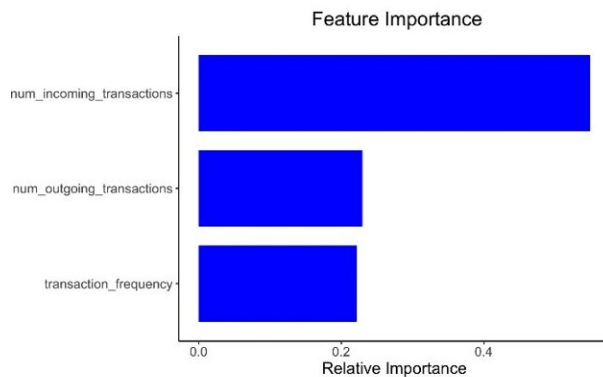
November 21 2023



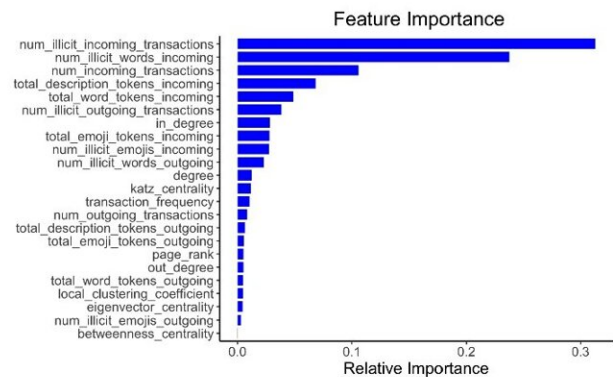
(a) Importance: Social Features



(b) Importance: Text Features



(c) Importance: Transaction Features



(d) Importance: All Features

We present the feature importance for the social, text, and transactional data separately, as well as for all features combined. The importance score measures the contribution of each feature to the performance of the random forest classifier. The higher the score, the more important the feature is for predicting illicit activity. Credit: *Annals of Operations Research* (2023). DOI: 10.1007/s10479-023-05617-7

Digital payment platforms such as Venmo work great for sharing a dinner bill with friends, buying gifts at a pop-up shop, or making payments without cash or credit cards.

But these digital payment platforms have a dark side: They can be misused for drug dealing and other illicit activity, suggest researchers from the University of California, Davis. And [social media apps](#) such as TikTok and Instagram can act as marketing tools for digital drug dealing.

"While platforms like Venmo revolutionize financial interactions, they also highlight the need for ongoing vigilance and adaptive regulatory measures," said Pantelis Loupos, assistant professor of marketing and business analytics at the UC Davis Graduate School of Management and co-author of a paper published in October.

"This study serves as a reminder to maintain awareness of our digital footprints and to engage with [digital services](#) responsibly."

By analyzing 23 million transactions of 2 million users over two years on Venmo, the most popular peer-to-peer payment [platform](#) in the United States, researchers found that at least 83,068 unique users were using drug-related emojis, words or street slang. Researchers looked for terminology derived from sources that included the U.S. Drug Enforcement Administration, identifying commonly used terms and emojis.

The [paper](#), "Social drug dealing: how peer-to-peer fintech platforms transformed illicit drug markets," was published in the *Annals of Operations Research*.

In their analysis, Loupos and co-authors used text and social network

analytics to identify both participants who use the app for drug dealing only and those who use it for a variety of transactions that include legitimate transactions as well as [drug](#) purchasing or selling. In order to be considered a statistically valid sample, at least 10% of all transactions of a Venmo user had to contain at least one illegal word or emoji, and each of those users had to have at least 50 transactions. The analysis encompassed transactions between 2013 and 2015.

People who purchase drugs on Venmo often use code words or emojis to indicate the type and quantity of drugs they are buying. Researchers observed that users might use a pill or syringe emoji and use slang terms like "greens," "blues," or "shrooms" to refer to various drugs.

Similarly, quantities of drugs might be disguised using coded language, such as "pizza" for a kilogram of cocaine or "cupcakes" for a small amount of marijuana. Researchers also came across euphemistic phrases like "pay for dinner" or "pitch in for gas" to describe transactions in messages.

"This study underscores the dual-use nature of fintech platforms and highlights the innovative ways in which such services can be co-opted," Loupos said. "More importantly, it provides [law enforcement](#) and [regulatory bodies](#) with a deeper understanding of digital [transaction](#) patterns, aiding in the development of more effective countermeasures."

More information: Jörn Boehnke et al, Social drug dealing: how peer-to-peer fintech platforms have transformed illicit drug markets, *Annals of Operations Research* (2023). [DOI: 10.1007/s10479-023-05617-7](https://doi.org/10.1007/s10479-023-05617-7)

Provided by UC Davis

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