

# Bitcoins, Blockchains and Cybersecurity

Teaching Emerging Topics in the Classroom

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SIGCSE 2018 - Lightning Talk

## \$8K Again? Bitcoin Is Up Nearly \$2K from Today's Low - CoinDesk

<https://www.coindesk.com> › News ▼

8 hours ago - **NEWS**. **Bitcoin** jumped almost \$2,000 from its intraday low Tuesday, making up some of the losses it sustained from 2018's January correction. As of press time, **bitcoin** was trading around \$7,900, after hitting a low of \$5,947 a little over 12 hours ago. The world's largest cryptocurrency by market cap opened ...

## Bitcoin News: News

<https://news.bitcoin.com/> ▼

**news.Bitcoin.com** is the world's premier 24/7 **news** feed covering everything **bitcoin**-related.

## Is Bitcoin's Risk On Trade Back In Play? - Forbes

<https://www.forbes.com/sites/chuckjones/2018/.../is-bitcoins-risk-on-trade-back-in-pla...> ▼

3 hours ago - **Bitcoin** and other cryptocurrency prices moved higher on Tuesday. They were coming off lows and mirroring the Risk On trade seen in the equity markets.

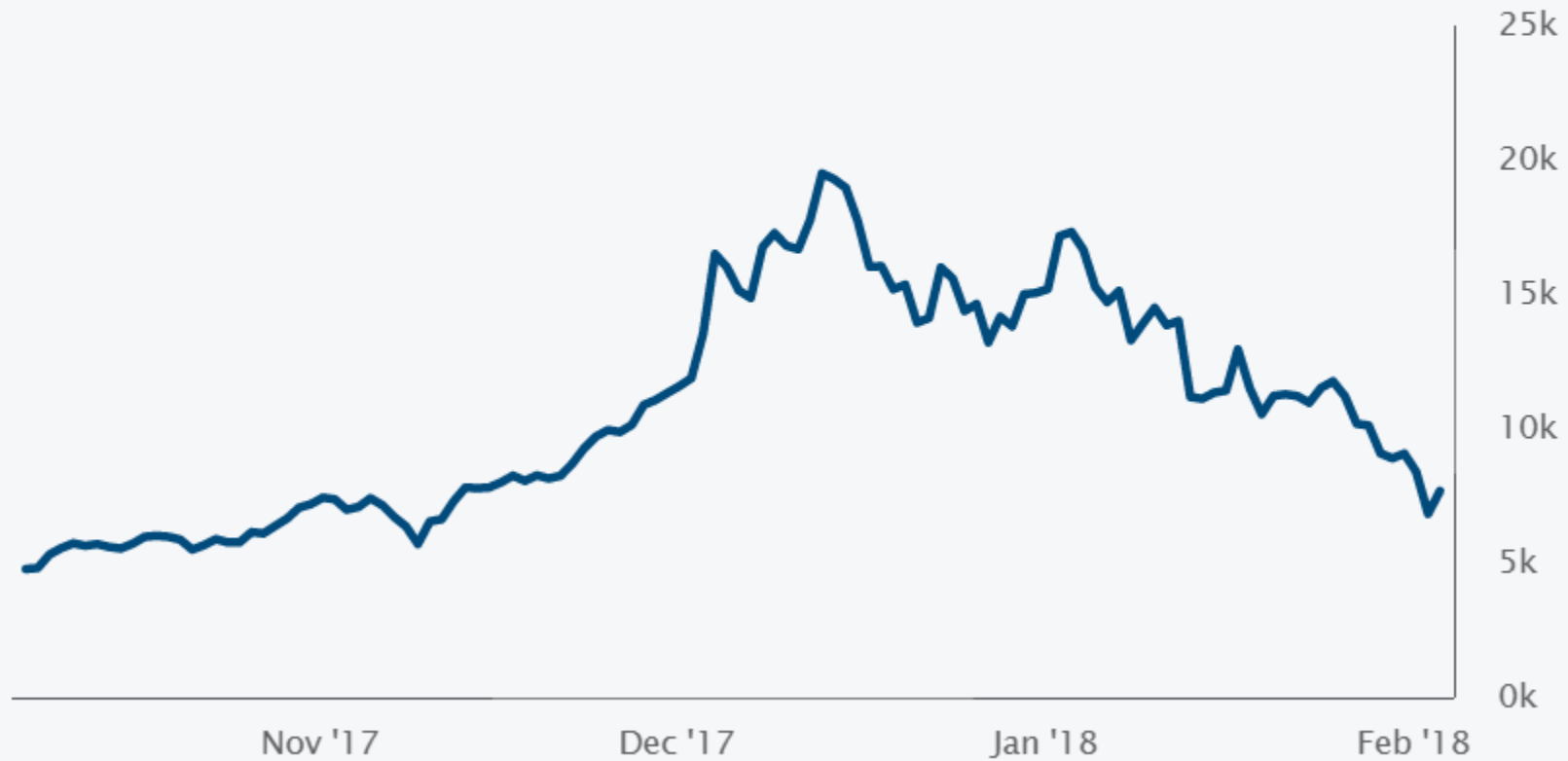
## Bitcoin price warning: Cryptocurrency to reach \$100,000 if it keeps ...

<https://www.express.co.uk> › Finance › City & Business ▼

13 hours ago - **BITCOIN's** prices fell dramatically amid a frenzied sell-off following **news** the Chinese Government and Lloyd's bank would ban buying BTC with credit cards. But independent crypto trend analyst Ronnie Moas said **bitcoin's** value could reach \$100000 if it maintains its current market share.

1 BTC = \$7,353.16

Interactive Chart [→](#)



## TRANSACTIONS PER DAY

The number of bitcoin transactions in the last 24 hours.



Transactions since Mon Feb 05 2018 7:46:28 PM.

MARKET CAP: \$115,222,434,845.00

HASH RATE: 23,938,939.78 TH/s

# Bitcoin 'SKYROCKETS' Cryptocurrency soars 25 per cent in 24 hours as 'investors celebrate'

A BITCOIN resurgence could be underway as the cryptocurrency soared over 24.5 per cent in the last 24 hours that has surely given investors an excuse to celebrate, it has been revealed.

By **JOSEPH CAREY**

PUBLISHED: 05:40, Wed, Feb 7, 2018 | UPDATED: 05:41, Wed, Feb 7, 2018

# CEO of Major UK-Based Cryptocurrency Exchange Kidnapped in Ukraine

Wednesday, December 27, 2017 Mohit Kumar

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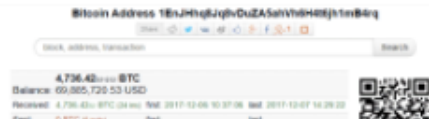


Pavel Lerner, a prominent Russian blockchain expert and known managing director of one of the major crypto-exchanges EXMO, has allegedly been kidnapped by "unknown" criminals in the Ukrainian capital [...]

# Largest Crypto-Mining Exchange Hacked; Over \$70 Million in Bitcoin Stolen

Wednesday, December 06, 2017 Mohit Kumar

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Bitcoin is breaking every record—after gaining 20% jump last week, Bitcoin price just crossed the \$14,800 mark in less than 24 hours—

# Separating the hype from the technology

- Crypto currencies are becoming popular with banks, consumers and various industries.
- There is a need for consumers and students to understand the basic underlying technology behind these crypto currencies and the underlying value, security risks and concerns.

# Core Topics

- Cryptocurrencies
  - Bitcoin (BTC, started in January 2009 after paper by “Satoshi Nakamoto”
  - Altcoins - Ethereum, Ripple, Bitcoin Cash, Cardano, Litecoin, NEM, Stellar, NEO, IOTA, Dash, Monero, TRON
- Blockchain (invented by Satoshi Nakamoto in 2008, as public transaction network for Bitcoin)
- Mining
- Proof of Work
- Wallet
- Exchange
- Initial Coin Offering (ICO)
- Regulations
- Cybersecurity



# Embed within Traditional Programs/Courses

- Accounting
- Finance
- Business
- Computer Science
- Information Technology
- Cybersecurity
- Administration of Justice
- Law
- Etc...

# Examples from CompSci and Business

- Computer Science
  - Proof of Work Protocol
  - Economic measure to deter DDOS or Spam
  - Extend understanding to create transaction block in a chain
  - Mining computers, hash rate
  - Electricity consumption
- Business: Accounting, Finance, Supply Chain, Security
  - Tax and government regulations
  - Distributed ledger for private/public supply chain
  - Cryptocurrencies for payments
  - Initial Coin Offering (ICO) for startups
  - Security of Wallets and Exchanges