Galipatian Station

WHILE YOU PEE IN LEE

Friday, April 6th – Friday, April 13th 2017

COMPILER

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Bitcoin Basics

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The future of cryptocurrencies is uncertain. While many praise the revolutionary concept of universal digital currencies, others are reluctant to back the idea due to its volatility and currently unstable nature.

Regardless of which side you may fall on, understanding the basics of cryptocurrency, especially bitcoin, is essential in forming a well rounded opinion on this current issue.

Cryptocurrencies are artificially produced currency systems that use cryptography to produce a string of characters that identify transactions within the system as well as creating new “coins”. Most new currencies are created with an established market cap to limit the total production of the “coins” to protect the long term value of the currency.

Bitcoin is by far the most popular and widely accepted cryptocurrency in today’s market. The total value of all bitcoins in circulation is $115 billion, with each coin priced at about $7,000. Individuals use their computing power to solve the mathematical problems and when/if the process has been completed a reward is paid in bitcoin to the solver of the problem. Individuals used to be able to mine independently of each other but as more bitcoins were issued the difficulty of the math problems increased, thus requiring more computing power to solve. Soon it became nearly impossible for individuals to “mine” the currency alone. The widely used solution to this problem are mining pools. The pools are managed by a third party website and allows users to contribute their computing power to be used with the contributions of others. Once the math problem has been solved the reward is split proportionally according to how much each computing power each person contributed.

The math problems that are worked are actually verification of the blockchain. The blockchain is a ledger of all transactions made with bitcoin and the amount each account holds. So when new “coins” are mined, the most recent bitcoin transactions are verified in the process.

This verification process is a major security advantage for the cryptocurrency due to the difficulty of manipulating the ledger that is repeatedly verified by it’s own users. Furthermore these currencies allowed users to bypass traditional banks. In addition to this, cryptocurrencies were completely unregulated by the government, until recently. Now regulations are being put in place across the globe pertaining to the digital currency market. Another disadvantage of the cryptosystem is that increasingly unfair percentages are charged to mine in pools.

The factors listed above, as well as many others have polarized the economic society into supportive members of the cryptocurrency system and those who resist the unstable concept. Which side are you on?

Why ESM?

Justin Dubik
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This article is meant to give you an overview of one the majors you may be less than familiar with: engineering science and mechanics (ESM).

ESM combines the core curriculum of many engineering majors, focusing on rudimentary engineering theory and building a strong core of advanced mathematics and computational tools that a student can use to model engineering systems. ESM students learn fluid and solid mechanics, vibrational motion, and advanced mathematical modeling. While the courses may seem daunting, the ESM community is tight knit and it's easy to make friends to work on assignments with.

ESM is the major for you if you want to understand engineering principles better than the average engineer and know how to build your skill set to become the type of engineer you want to be. Upon graduation, ESM students can perform the jobs of many other engineering majors. ESM graduates are also uniquely prepared for graduate school or engineering management positions, due to their core understanding of many engineering focuses.

One thing that sets ESM apart from the other majors is their focus on undergraduate research. The BEAM department offers to cover 60 hours pay of undergraduate research for any ESM student, meaning ESM students can grow their professional network with VT faculty and build valuable skills in a laboratory setting, all while getting paid.

This major does not include many of the applied design courses that other engineering majors feature in their curriculum. Instead, it is up to the student to find a way to build experience with design and applied engineering theory to have the hands-on experience an engineer needs to be successful. However, with so many opportunities to get involved with design teams and research here at Tech, it is easy to develop a skillset and resume that hiring teams will be impressed with, even without design courses built into your curriculum.

Feel free to email me any of your questions at jrdubik@vt.edu. I am also available to talk to from 9-10 pm Sundays in Studio 2 during my Physics Tutoring hours.

The Arts at Virginia Tech

Christina Lin
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Sophomore

Virginia Tech is known for its strong engineering program, but in recent years, it has also made efforts to increase the quality of its arts programs and performances. Here are some exciting events going on this month.

Music

Music on Mondays: April 9th, 8 pm at Squires Recital Salon, free
Faculty artists are Nicole Paglialonga on violin, Wallace Easter on horn, and Jay Crone on piano.

Juxta Gets Lucky: April 13th, 7 and 9:30 pm at the Lyric Theater, $5
Get ready to hear Juxta's twist on songs from artists like James Arthur, Maroon 5, Demi ` Lovato, Stevie Wonder, & more!

Percussion Ensemble: April 14th, 7:30 pm at the Moss Arts Center, $7
Utilizing many of the spatial audio capabilities of the Cube, they will also be premiering *Vignettes by Brian Nozny, and Marimbas Everywhere by Eric Lyon.*

Jazz Ensembles: April 27th, 7:30 pm at the Lyric Theatre, $7

Exhibitions, Performances, and Showings

Cyanotypes by Jan Downs: March 1st - April 30th at the Hahn Horticulture Garden, free
Jan Downs has a more documentary style that combines history and culture along with aesthetics. The Cyanotypes, or sun prints, are camera-less images that use only water to "develop" the image.

Salaam: Saba Taj: April 5th - April 21st at the Moss Arts Center, free
A selection of vibrant and evocative mixed-media works by North Carolina-based artist and activist Saba Taj.

Black Panther: April 14th - April 19th. Lyric Theatre, $5

The Importance of Being Earnest: April 18th - April 21st at the Moss Arts Center, $10
Located in 1890s London, this play sets the stage for two fun-loving bachelor friends that have both taken the pseudonym 'Ernest' to escape from their social responsibilities.

What Color is Water?: March 17 - June 3 at the Squires Perspective Gallery, free. Explores the issue of water quality.