



Yours University

Because learning stuff is cool.

Professor



Ryan X. Charles

Cofounder & CEO of Yours
Cryptocurrency Engineer at reddit,
BitPay, BitGo, Physics ABD, Wash U

Outline

- **Crypto** (BNs, ECs, Hash, pubkeys/privkeys, ECDSA, Merkle trees, others?)
- **Transactions and Blocks**
- **Scripts**
- **P2P messages**
- **Software Architecture**
- More? (Bitcoin Core and other implementations, segwit, Lightning, BIPs and wallets, etc.)

Lecture 1: Big Numbers

- General introduction
 - My background (PhD, BitPay, reddit, BitGo, Yours)
 - Bitcore -> fullnode -> Yours Bitcoin
- Why This Course?
- Installing Yours Bitcoin
- Creating the Examples Repo
- Big Numbers
- Number Formats

Lecture 2: Pubkeys & Privkeys

- Private Keys
 - Big Numbers
 - Formatting (String, JSON, Hex, Buf, Base 58 Check)
 - Generating
- Public Keys
 - $P = pG$
 - Compressed / Uncompressed
 - Formatting (String, JSON, Hex, Buf, DER)