

# Pratyush Mishra

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pratyushmishra.com

## EDUCATION

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- 2016 TO 2021 PhD in COMPUTER SCIENCE  
University of California, Berkeley
- 2012 TO 2016 BSc in ELECTRICAL ENGINEERING AND COMPUTER SCIENCE  
University of California, Berkeley  
GPA: 3.804/4.000, Honours

## RELEVANT COURSEWORK

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CS 161	Computer Security	CS 172	Computability and Complexity Theory
CS 261	Graduate Computer Security	CS 174	Probability and Combinatorics
CS 261	Intro to CS Theory	CS 276	Graduate Cryptography
Math 110	Linear Algebra	Math 116	Cryptography
Math 113	Abstract Algebra	–	Galois Theory

## RESEARCH EXPERIENCE

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- Current* Research Assistant with Profs. David Wagner and Alessandro Chiesa, UC Berkeley  
2015 – *Anonymous Decentralized Micropayments*  
Working on building probabilistic micropayments on top of Zerocash, an anonymous decentralized currency. We showed impossibility results for fast, offline micropayments, and augmented Zerocash to accommodate penalty mechanisms that allowed us to design such micropayment schemes despite the above limitations.
- Past*  
2014 TO 2016 *Breaking Speech Recognition*  
Worked on reverse-engineering speech recognition systems to create sound clips that do not sound like human speech but are correctly recognized by the speech recognition system as such. This would allow malicious attackers to inconspicuously control unsuspecting users' devices.
- 2015 *Finding Smartlock Vulnerabilities*  
Tested various models of smartlocks for different categories of vulnerabilities. Created a model of security for smartlocks.
- 2013 TO 2014 *Assessing Webcam LED Indicator Effectiveness*  
Worked on determining the effectiveness of existing webcam notification methods (LED indicators) in warning users that they were being recorded. Found that current methods of notification are very ineffective. Tested **alternative notification methods** which were **more successful**.

## TEACHING EXPERIENCE

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- 2016 Teaching Assistant for CS 161 – Computer Security.

## PUBLICATIONS

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Nicholas Carlini, Pratyush Mishra, Tavish Vaidya, Yuankai Zhang, Micah Sherr, Clay Shields, David Wagner, and Wenchao Zhou. "Hidden Voice Commands". In: Submission.

Alessandro Chiesa, Matthew Green, Jingcheng Liu, Peihan Miao, Ian Miers, and Pratyush Mishra. "Decentralized Anonymous Payments". In: Submission.

Grant Ho, Derek Leung, Pratyush Mishra, Ashkan Hosseini, Dawn Song, and David Wagner. "Smart Locks: Lessons for Securing Commodity Internet of Things Devices". In: AsiaCCS '16.

Rebecca S. Portnoff, Linda N. Lee, Serge Egelman, Pratyush Mishra, Derek Leung, and David Wagner. "Somebody's Watching Me?: Assessing the Effectiveness of Webcam Indicator Lights". In: CHI '15.