HUNTER A. DYER

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EDUCATION

University of Illinois at Urbana-Champaign   *Completed May 2021*
M.C.S. in Computer Science   *GPA: 3.96*

University of Illinois at Urbana-Champaign   *Completed May 2021*
B.S. in Computer Science - High Honors   *GPA: 3.91*

Parkland Community College   *Completed December 2017*
A.S. in Engineering Science - Honors   *GPA: 3.95*

SKILLS

Languages:	Python, C, C++, Java, JavaScript, x86 Assembly, SQL, Verilog, OCaml
Development:	Android, Django, Flask, Flutter
Frameworks:	PyTorch, Pandas, NumPy, BeautifulSoup, Selenium, Java Swing
Operating Systems:	Linux, Windows, Virtual Machines
Other:	Command Line Utilities, Docker, Git, GitHub, Fiddler, Microsoft Office Suite

ACADEMIC EXPERIENCE

Graduate Research Assistant   *June 2021 - Present*
The George Washington University - Usable Security Lab
- Organized qualitative survey responses to understand data breach victims' reactions to breach involvement and to identify motivating factors for action and inaction
- Developed online survey mechanisms through the Django framework to facilitate study progression and data collection
- Utilized the Selenium and BeautifulSoup web-scraping frameworks to measure the prevalence of legitimate Android applications on unofficial hosting sites and identify potential application tampering methods and sources

Graduate Teaching Assistant - Software Engineering   *August 2021 - Present*
The George Washington University - Usable Security Lab
- Held office hours and lab sections discussing good software design practices and aiding on class projects
- Graded student assignments through the semester and provided feedback on code structure and design

Undergraduate Research Assistant   *May 2020 - May 2021*
University of Illinois at Urbana-Champaign
- Analyzed network traffic with Fiddler and performed static code analysis on Android COVID-19 contact-tracing applications in order to identify potential privacy issues and security concerns
- Designed and produced a server and client infrastructure for a digital assistant study using React Native and Flask and deployed on AWS
- Reviewed and manually classified items within a variety of security standards and frameworks, including NIST, FedRAMP, and C5

Undergraduate Teaching Assistant - Information Assurance   *January 2021 - May 2021*
University of Illinois at Urbana-Champaign
- Rewrote and redesigned weekly lab modules to make assignments more succinct and to promote the acquisition of technical skills relating to information assurance
- Assisted students with conceptual questions regarding course content in office hours

PROFESSIONAL EXPERIENCE

Safer Illinois Security Review Team   *August 2020*
University of Illinois at Urbana-Champaign
- Audited Flutter code in order to assess the security and privacy of implemented BLE protocol
- Ensured adherence to a specification modeled after the Apple-Google privacy-preserving contact-tracing model

Software Development Intern *May 2019 - August 2019*
Sandia National Laboratories + Illinois Applied Research Institute
- Worked in a team of five to explore neural network architectures for classifying time-series and video data in order to surpass older, deterministic classifiers
- Utilized various Python frameworks (Pandas, NumPy, and PyTorch) in order to develop a data extraction, processing, and visualization pipeline for a large image dataset

STEM Programming Intern *May 2018 - September 2018*
Illinois State 4-H Office
- Designed educational programming and materials for middle-school aged youth in the areas of robotics, hardware prototyping, and computer programming
- Implemented a QR code checkout system for state-wide robotics and drone equipment loan programs

PROJECTS OF INTEREST

Twitter Bots and Misinformation Within The 2020 Presidential Election *August 2020 - December 2020*
University of Illinois at Urbana-Champaign
- Explored automated classification of misinformation tweets through Word2Vec distance metrics
- Leveraged existing social media bot classifier to identify magnitude of bot presence on political accounts found on Snopes and PolitiFact, hashtags, and election related conversation

Utilizing Adversarial Machine Learning Against DeepFakes *August 2020 - December 2020*
University of Illinois at Urbana-Champaign
- Utilized AdvGAN with various loss functions to generate protective adversarial noise in order to combat AutoEncoder DeepFakes
- Explored the effects of loss functions on other image translation task, such as Pix2Pix (Facade) and CycleGAN (Horse2Zebra)

PUBLICATIONS

Tanusree Sharma, **Hunter A. Dyer**, Masooda Bashir.*"Enabling User-Centered Privacy Controls for Mobile Applications: A COVID19 Perspective"*. ACM's Transations on Internet Technologies (TOIT), 2020.

Tanusree Sharma, **Hunter A. Dyer**, Roy H. Campbell, Masooda Bashir.*"Mapping Risk Assessment Strategy for COVID-19 Mobile Apps' Vulnerabilities"*. Intelligent Computing, 2022.

SPECIALIZED COURSEWORK

Undergraduate:	Advanced Computer Security, Information Assurance, Machine Learning
Graduate:	Adversarial Machine Learning, Machine Learning for Security, IOT Security
Class Skills:	Binary/Web/Network Exploitation, Forensics

ACADEMIC DISTINCTIONS

CyberCorp's Scholarship for Service Recipient *August 2019 - May 2021*
University of Illinois at Urbana-Champaign