Bailey Defino

E: bdefino[AT]cs[DOT]stonybrook[DOT]edu
G: github[DOT]com[SLASH]bdefino
T: [Number Redacted]
W: bdefino[DOT]github[DOT]io

[Address Redacted]

US Citizen

Current Position

2019-Present

Undergraduate Research Assistant, PragSec Laboratory, Stony Brook University

Performing a post-mortem analysis on a recent strain of JavaScript credit card skimmers. Leading development of a browser extension for their detection and prevention.

Education

Expected 2021

BS in Computer Science, Stony Brook University

2017

Advanced Regents Diploma, [Town Redacted] Central High School

Courses

Graduate	Undergraduate
Distributed Systems (next semester)	**Advanced Systems Programming in UNIX/C**
Seminar in Computer Security (audited)	**Algorithms**
	Automata
	Offensive Security
	Operating Systems

Skills

Languages		Tools		Systems		Architectures	
Python	**6 years**	**Git**	**3 years**	**Linux**	**6 years**	MIPS	1 year
C	**2 years**	**GDB**	**1 year**	Windows	2 years	x86	6 months
POSIX Shell	**2 years**	Runit	3 years				
Java	2 years	Make	1 year				
JavaScript	1 year	LaTeX	3 months				
R	1 year	Kbuild	3 months				
		Valgrind					

Projects

2020-Present
(Impl. Phase)

Loose Cluster

Coding an original decentralized clustering framework in pure C. Experimenting with minimalist (convolutional) distributed algorithms.

2020-Present
(Design Phase)

nu - Not Unix

Designing a secure operating system from the ground up. Rethinking everything from philosophy (e.g. full exploitation and no crutches for programmers), to threat models, to what even constitutes a program. Designing a corresponding architecture, assembly language, virtual machine, and C language alternative.

2020-Present (Design/Impl. Phase)	**Datagram Anonymity Layer** *Designing an anonymous (albeit high-latency) layer for datagram integrity, and datagram/sender/receiver confidentiality. Mitigating sender/receiver deanonymization and datagram visibility from network observers and compromised intermediaries.*
2019	**Linux LKM Rootkit**, with B. Valarezo, J. Wong, and J. Liu. github[DOT]com[SLASH]bvalarezo[SLASH]rootkit *Developed an extensible core for maintaining covert superuser access. Sharpened teamwork skills and developed a more sophisticated understanding of operating systems.*
2019-Present (Design/Impl. Phase)	**Anonymized Private Messenger**, with [NAME REDACTED] ([LINK REDACTED]). *Designing/implementing an extensible system for exchanging anonymized messages. Exploring problems with network anonymity and experimenting with pair programming.*
2020	**Multithreaded Producer/Consumer Model**, bdefino[DOT]github[DOT]io[SLASH]pc[DOT]html *A lightweight C task parallelization library geared towards daemons, servers, vulnerability scanners, and web spiders. Promotes high availability and low latency through support for multipart (reconsumable) tasks.*

Grants, Honors, & Awards

2017	**Computer Science Scholarship**, [TOWN REDACTED] Central High School

Appointments Held

Summer 2019, > 40 hrs/week	**Property Manager**, London, UK *Managed and directed the renovation of an old apartment. Documented faults and assessed solutions at a new property.*
2016-2017	**General Employee**, [NAME REDACTED]'s Chocolates of [TOWN REDACTED], [STATE REDACTED] *Subjectively matched customers with chocolates, cleaned, restocked, and hand-packaged said chocolates.*

References

Nikiforakis, Nick. **Assistant Professor**, Department of Computer Science, Stony Brook University. nick[AT]cs[DOT]stonybrook[DOT]edu

Amin Azad, Babak. **Graduate Research Assistant**, PragSec Laboratory, Stony Brook University baminazad[AT]cs[DOT]stonybrook[DOT]edu