

Mark Bestavros

Contact: markbest@bu.edu | [Website](#) | [Github](#) | [LinkedIn](#)

WORK EXPERIENCE

Current: Software Engineer, Red Hat

(June'19-Present)

- Current team: EC – developing tools to verify build provenance and [SLSA](#) compliance
- Previously: Office of the CTO Security – bootstrap nascent open-source security ideas into strong upstream community projects with a sustained emphasis on secure supply chains
- Notable project contributions: [Sigstore](#), [Keylime](#), [EC](#), [InstructLab](#), others
 - **EC**: Various contributions to ec-cli pertaining to policy [samples: [1](#), [2](#), [3](#), [4](#)]
 - **InstructLab**: Contributed initial Sigstore support for user-created models [[link](#)]
 - **in-toto/Keylime/Sigstore**: Designed a prototype of end-to-end secure supply chain delivery using Sigstore, in-toto, and Keylime
 - [Repo](#). Demoed at [KubeCon 2022](#) during in-toto maintainer track talk.
 - **Keylime**: Led an overhaul of Keylime's runtime policy engine, including an [API revamp](#) and [format/backend modernization](#).
 - **Keylime/in-toto**: Implemented DSSE signature support into Keylime [[link](#)]
 - **Keylime**: Implemented a signing infrastructure overhaul [[link](#), [link](#)]
 - **Sigstore**: Implemented AWS CloudHSM support into Fulcio [[PR](#)]
 - **Sigstore**: Wrote several Python APIs for Sigstore/Rekor interaction [[link](#)]
 - **Sigstore**: Co-author for cosign-installer Github Action [[link](#)]
 - **Sigstore**: Authored some early Github Actions for keyless sign/verify [[link](#)]
 - **Enarx**: Created an [open source project management toolset](#) on GH Actions
- Conferences: DevConf.US 2024 ([speaker](#)), Red Hat Day Turkey 2022 (speaker), KubeCon 2022 (remote speaker, mentioned above), KubeCon 2021 (in person, Sigstore booth)
- Notable blogs: [Synthetic Media/Secure Supply Chain](#), [Kubecon diary](#), [Sigstore in a nutshell](#)

Software Engineering Intern, Part-Time, Red Hat

(Oct'18-June'19)

- Contributed to Keylime Rust agent: cloud-native remote attestation w/ TPMs [[Github](#)]

Software Developer Intern, MITRE

(Summer'18)

- Contributed to PSM, an open source healthcare app [[Github](#)]; participated in MITRE eCTF

Android Developer Intern, VMware

(Summer'17)

- Worked on the Workspace ONE Android app, prototyping and testing new features

Developer Intern, Hitachi Data Systems

(Summer'16)

- Worked with the HCP Anywhere team to update/modernize their Android app

Course Assistant, Introduction to Computer Science I and II

(Sep'15 - Dec'16)

- Held office hours, ran a lab, taught key skills such as debugging and code etiquette

TECHNICAL SKILLS

Python (Experienced — primary language used for most work projects, including Keylime)

Go (Experienced — used for some projects at Red Hat, particularly around Sigstore/secure software supply chain)

Git (Experienced — used every day, in personal and professional contexts)

CI/Github Actions/Project Automation (Experienced — primary responsibility on the Enarx project)

Linux/Shell/Containers (Experienced — used every day at Red Hat and during my work at MITRE for Summer '18)

Java/Android (Familiar — first language; highly used in coursework; worked with Android for two internships)

Others: web (personal projects), Rust (for a short time at Red Hat)

EDUCATION

BA/MS Degree in Computer Science from Boston University

(Class of 2019)

Selected Coursework Highlights: Applied Crypto, Network Security, National Security and Technology, Applied Urban Data Science, Differential Privacy, Fundamentals of Computing Systems, Crypto Theory, Advanced Algorithms

MENTORSHIP

Industry Mentor for BU Spark! Innovation Fellows Program (Fall'19 – Present)

- Work with a different 4-5 student team every semester to incubate a project from idea to prototype to finished product. I provide technical and project management guidance.
- Occasionally run workshops on topics like intermediate Git/Github, shell, and others
- As of fall 2024, I've mentored ten semesters of student projects – and counting!

COOL UNDERGRADUATE RESEARCH

Project: Algorithmic Optimizations of Boston's Public Bus Network [\[poster\]](#) (Fall'16 – Fall'17)

- Started as a Data Mechanics [\[link\]](#) class project to improve Boston's public bus system
- Developed optimizations for bus stop placement and efficient bus allocation

EXTRACURRICULAR ACTIVITIES, HACKATHONS, STUDY ABROAD

Organizer, BostonHacks [\[link\]](#) (Aug'15 – Dec'18)

- BU's student-run hackathon, attracting hundreds of students from around the US

Board Member, BUILDS [\[link\]](#) (Sep'16 – April'18)

- Boston University's student-run hackerspace, where I ran/taught workshops

Rabat, Morocco Intensive Arabic Language Study Abroad Program (Summer'15)

- Eight-week study abroad program with intense focus on Arabic language
- Immersive learning: homestay living w/ Moroccan family, conversed in Arabic/French

Boston University Pep Band 1st Trombonist (Sep'14 – Dec'17)

- Perform at university engagements and sporting events

Hack UMass (April'15)

- Team project: Leap Motion-powered musical instrument; finalist, top 8

HOBBIES (not professionally relevant, but feel free to ask!)

Tinkering with Technology

- Examples: setting up a Raspberry Pi NAS, running Pi-Hole on my home network, tinkering with Linux and Android, writing user scripts for Miniflux for more efficient news reading. It's fun!

Urbanism/Transit/Biking

- I'm a huge train/transit nerd, especially around Boston's MBTA. Ask me for fun facts if you live in Boston! I like to follow what's new in the city and area with regards to pedestrian/biking infrastructure, and am constantly rooting for a better T.

Gaming

- While at Red Hat, I organized and lead a Counter-Strike: Global Offensive team participating in the CEA, a corporate charity esports league. It was a lot of fun, a great way to meet people at the company I wouldn't have otherwise, and for a great cause!
- In addition to playing games, I also really enjoy modding them! If a game has official modding support, I'm liable to sink way too much time into it. I've also taken the time to write my own mods in the past.

Music

- I play trombone!

Hiking/Skiing

- I'm not an *intense* hiker, but I enjoy a good climb every now and again. I've also learned to ski in the past few years.

Travel

- I'm not great at organizing my own travel, but I do enjoy it when it happens – either through work, or with friends. Last year I was fortunate enough to visit both Turkey and Scandinavia!