

Panneer Selvam Santhalingam

Tel: (703) 349-9651

Email: ps.santhalingam@brooklyn.cuny.edu

Homepage: <https://psanthalingam.com>

RESEARCH INTERESTS Wireless and wearable sensing with applications to accessibility, health care, and cyber-physical systems.

EDUCATION

Ph. D. in Computer Science (Aug, 2023)
George Mason University, Fairfax, USA
Advisor: Dr. Parth H. Pathak

M.S. Information Security and Assurance (May, 2016)
George Mason University, Fairfax, USA
Advisor: Dr. Robert Simon
Thesis: Securing the internet of things using HIP-Dex

B.E. Electrical and Electronics Engineering (April, 2010)
Anna University (S.S.N College of Engineering), Chennai, India.

PROFESSIONAL EXPERIENCE

Assistant Professor (Aug '23 – Present)
Computer and Information Science Department, Brooklyn College, Brooklyn, NY

Research Intern (Jun '22 – Aug '22)
AT&T Labs, Bedminster, NJ

Research Assistant (Jan '18 – May '23)
Computer Science Department, George Mason University, Fairfax, VA

Teaching Assistant (Aug '16 – Dec '17)
Computer Science Department, George Mason University, Fairfax, VA

Security Support Engineer (Mar '16 – Aug '16)
Amazon Web Services, Seattle, WA, USA

Application Developer (Dec '10 – May '13)
iNautix, Chennai, India

PUBLICATIONS

- Panneer Selvam Santhalingam**, Parth Pathak, Huzefa Rangwala, and Jana Kosecka. Synthetic Smartwatch IMU Data Generation from In-the-wild ASL Videos. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT/ UbiComp), Cancun, Mexico, Pages: 34, 2023. [Acceptance rate = 20-25%]
- Ding Zhang, **Panneer Selvam Santhalingam**, Parth Pathak, and Zizhan Zheng. CoBF: Coordinated Beamforming in Dense mmWave Networks. Proceedings of the ACM on Measurement and Analysis of Computing Systems (SIGMETRICS), Orlando, USA, 2023. Pages: 23
- Ding Zhang, **Panneer Selvam Santhalingam**, Parth Pathak, and Zizhan Zheng. Networked Beamforming in Dense MmWave WLANs. ACM International Workshop on Mobile Computing Systems and Applications (HotMobile), Tempe, Arizona, Pages: 7, 2022.
- Pengfei Hu, Hui Zhuang, **Panneer Selvam Santhalingam**, Riccardo Spolaor, Parth Pathak, Guoming Zhang, and Xiuzhen Cheng. AccEar: Accelerometer Acoustic Eavesdropping with Unconstrained Vocabulary. IEEE Symposium on Security and Privacy (SP), San Francisco, California, Pages: 17, 2022. [Acceptance rate = 14%]

5. Pengfei Hu, Yifan Ma, **Panneer Selvam Santhalingam**, Parth H Pathak, and Xiuzhen Cheng. MILLIEAR: Millimeter-wave Acoustic Eavesdropping with Unconstrained Vocabulary. IEEE Conference on Computer Communications (INFOCOM), Virtual, Pages: 10, 2022. [Acceptance rate = 12%]

6. Al Amin Hosain, **Panneer Selvam Santhalingam**, Parth Pathak, Huzefa Rangwala, and Jana Kosecka. Hand pose guided 3d pooling for word-level sign language recognition. IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), Virtual, Pages: 11, 2021. [Acceptance rate = 29%]

7. **Panneer Selvam Santhalingam**, Yuanqi Du, Riley Wilkerson, Ding Zhang, Parth Pathak, Huzefa Rangwala, Raja Kushalnagar, et al. Expressive asl recognition using millimeter-wave wireless signals. IEEE International Conference on Sensing, Communication, and Networking (SECON), Italy (virtual), Pages: 9, 2020. [Acceptance rate = 27%]

8. **Panneer Selvam Santhalingam**, Al Amin Hosain, Ding Zhang, Parth Pathak, Huzefa Rangwala, and Raja Kushalnagar. mmASL: Environment-independent asl gesture recognition using 60 ghz millimeter-wave signals. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT/ UbiComp), Cancun, Mexico (virtual), Pages: 30, 2020. [Acceptance rate = 20-25%]

9. Al Amin Hosain, **Panneer Selvam Santhalingam**, Parth Pathak, Jana Kosecka, Huzefa Rangwala, et al. Body pose and deep hand-shape feature based american sign language recognition. IEEE International Conference on Data Science and Advanced Analytics (DSAA), Sydney, Australia (virtual), Pages 9, 2020. [Acceptance rate = 26%]

10. Ding Zhang, **Panneer Selvam Santhalingam**, Parth Pathak, and Zizhan Zheng. Characterizing interference mitigation techniques in dense 60 ghz mmwave wans. IEEE International Conference on Computer Communication and Networks (ICCCN), Valencia, Spain, Pages: 9, 2019. [Acceptance Rate = 28%]

11. Al Amin Hosain, **Panneer Selvam Santhalingam**, Parth Pathak, Jana Kosecka, Huzefa Rangwala, et al. Sign language recognition analysis using multimodal data. IEEE International Conference on Data Science and Advanced Analytics (DSAA), Washington DC, USA, Pages: 8, 2019. [Acceptance Rate = 29%], Best Research Paper Award

12. Avinash Srinivasan, Jie Wu, **Panneer Selvam Santhalingam**, and Jeffrey Zamaniski. Deaddrop-in-a-flash: Information hiding at ssd nand flash memory physical layer. IARIA International Conference on Emerging Security Information, Systems and Technologies (SECURWARE), Pages: 7, 2014

HONORS AND AWARDS

Best Paper Award at IEEE International Conference on Data Science and Advanced Analytics (DSAA) 2019 for work titled "Sign Language Recognition Analysis using Multimodal Data".

Outstanding Graduate Teaching Assistant for year 2018, Computer Science Department, George Mason University.

Distinguished Graduate Student of year 2016 Information Security and Assurance graduates at George Mason University.

TEACHING EXPERIENCE

Course Instructor at George Mason University

- CS471 Operating Systems (Fall '22)
Enrollment: 61, Instructor rating: –, Course rating: –

Teaching Assistant at George Mason University

- CS112 Programming with Python (Fall '16, Spring '17, Summer '17)

- CS474 Operating systems (Fall '17)
- IT341 Data Communication and Networking Principles (Fall '14, Spring '15, Summer '15, Fall '16)

PROFESSIONAL
SERVICE

Conference organization and Reviewing:

- Shadow program committee member, ACM Conference on Embedded Networked Sensor Systems (SenSys 2022)
- Reviewer ACM User Interface Software and Technology (UIST 2020, UIST 2021)
- Reviewer IEEE Transactions on Mobile Computing (TMC 2020)
- Reviewer IEEE Communication letters (2022)
- Reviewer IEEE Open Journal of the Communications Society (OJCOMS 2022)
- Web chair, 3rd ACM Workshop on Millimeter-Wave Networks and Sensing Systems (mmNets) 2019, co-located with ACM MobiCom 2019

STUDENT
ADVISING

Undergraduate Research Mentees:

- Carlos Verastegui, NSF REU Fellowship, 2020-2021
- Yuanqi Du, NSF REU Fellowship, 2019-2020
- Jesse McCandlish, Provost Summer Impact Project, 2019
- Ariana Havens, Provost Summer Impact Project, 2019
- Dong Young Huh, Provost Summer Impact Project, 2019
- Riley Wilkerson, Provost Summer Impact Project, 2019
- Allison Dockum, Provost Summer Impact Project, 2019

High School Students:

- Arisa Chue, Provost Summer Impact Project, 2019
- Aishwarya Chakravarthy, Mason ASSIP, Summer 2021
- Raffu Khondaker, Mason ASSIP, Summer 2021
- Sammy Kee, Mason ASSIP, Summer 2021