

# Hassan Habibi Gharakheili

School of EE&T, UNSW Sydney, High Street, Kensington – NSW 2052 – Australia

✉ h DOT habibi AT unsw • 🌐 <https://www2.ee.unsw.edu.au/~hhabibi/>

## Research Interests:

---

Computer networks and systems, programmable networks, learning-based systems, data analytics for internet-of-things

## Education

---

### UNSW Sydney

*PhD, Electrical Engineering and Telecommunications,*

*Thesis: Broadband Fast-Lanes and Slow-Lanes Empowered by Software Defined Networking,*

*Supervisor: Prof. Vijay Sivaraman*

**Sydney, Australia**

*Feb 2012–Dec 2015*

### Sharif University of Technology

*M.Sc., Electrical Engineering,*

*Thesis: Automatic Vision-Based Wayside System for Train Component Monitoring*

*Supervisor: A/Prof. Kambiz Nayeibi*

**Tehran, Iran**

*Sep 2001–Jan 2004*

### Sharif University of Technology

*B.Sc., Electrical Engineering,*

*Thesis: Short Term Load Forecasting Using Artificial Neural Networks and Fuzzy Expert System*

*Supervisor: Prof. Ali Mohammad Ranjbar*

**Tehran, Iran**

*Sep 1997–Jun 2001*

## Employment

---

### UNSW Sydney

*Senior Lecturer in Telecommunications,*

**Sydney, Australia**

*Jul 2020–present*

### UNSW Sydney

*Lecturer in Telecommunications,*

**Sydney, Australia**

*Jan 2019–Jun 2020*

### UNSW Sydney

*Postdoctoral Research Fellow in Telecommunications,*

**Sydney, Australia**

*Jan 2016–Dec 2018*

### AZAD University

*Lecturer in Electronics Engineering & Telecommunications,*

**Saveh, Iran**

*Sep 2004–Feb 2012*

### Broadband ISP

*Senior Telecom Engineer,*

**Tehran, Iran**

*Feb 2004–Feb 2012*

## Publications

---

### Books and Book Chapters:

1. **Hassan Habibi Gharakheili**, Ayyoob Hamza and Vijay Sivaraman, "Cyber-Securing IoT Infrastructure by Modeling Network Traffic", chapter in the book "*Security and Privacy in the Internet of Things: Architectures, Techniques, and Applications*", John Wiley & Sons, 2021. ISBN: 978-1-119-60774-8 (Print) 978-1-119-60775-5 (Online). DOI: 10.1002/9781119607755.ch6.
2. **Hassan Habibi Gharakheili**, "The Role of SDN in Broadband Networks", *Springer Theses*, Singapore, 2017. ISBN: 978-981-10-3478-7 (Print) 978-981-10-3479-4 (Online).

### Journal Publications:

3. Arman Pashamokhtari, Gustavo Batista and **Hassan Habibi Gharakheili**, "Efficient IoT Traffic Inference: from Multi-View Classification to Progressive Monitoring", *ACM Transactions on Internet of Things (TIOT)*, Sep 2023.
4. Minzhao Lyu, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "PEDDA: Practical and Effective Detection of Distributed Attacks on Enterprise Networks via Progressive Multi-Stage Inference", *Computer Networks (Elsevier)*, 233:109873, Jun 2023.
5. Arman Pashamokhtari, Norihiro Okui, Masataka Nakahara, Ayumu Kubota, Gustavo Batista and **Hassan Habibi Gharakheili**, "Dynamic Inference from IoT Traffic Flows under Concept Drifts in Residential ISP Networks", *IEEE Internet of Things Journal (IoT-J)*, 10(17):15761-15773, Apr 2023.
6. Minzhao Lyu, **Hassan Habibi Gharakheili**, Craig Russell and Vijay Sivaraman, "Enterprise DNS Asset Mapping and Cyber-Health Tracking via Passive Traffic Analysis", *IEEE Transactions on Network and Service Management (TNSM)*, 20(3):3699-3716, Nov 2022.
7. Arman Pashamokhtari, Norihiro Okui, Yutaka Miyake, Masataka Nakahara and **Hassan Habibi Gharakheili**, "Combining Stochastic and Deterministic Modeling of IPFIX Records to Infer Connected IoT Devices in Residential ISP Networks", *IEEE Internet of Things Journal (IoT-J)*, 10(6):5128-5145, Nov 2022.
8. Minzhao Lyu, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Classifying and Tracking Enterprise Assets via Dual-Grained Network Behavioral Analysis", *Computer Networks (Elsevier)*, 218:109387, Dec 2022.
9. Minzhao Lyu, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "A Survey on DNS Encryption: Current Development, Malware Misuse, and Inference Techniques", *ACM Computing Surveys*, 55(8):1-28, Dec 2022.
10. Ayyoob Hamza, **Hassan Habibi Gharakheili**, Trevor Pering and Vijay Sivaraman, "Combining Device Behavioral Models and Building Schema for Cyber-Security of Large-Scale IoT Infrastructure", *IEEE Internet of Things Journal (IoT-J)*, 9(23):24174-24185, Dec 2022.
11. Arman Pashamokhtari, Gustavo Batista and **Hassan Habibi Gharakheili**, "AdIoTack: Quantifying and Refining Resilience of Decision Tree Ensemble Inference Models against Adversarial Volumetric Attacks on IoT Networks", *Computers & Security (Elsevier)*, 120:102801, Sep 2022.
12. Jawad Ahmed, **Hassan Habibi Gharakheili**, Craig Russell and Vijay Sivaraman, "Automatic Detection of DGA-Enabled Malware Using SDN and Traffic Behavioral Modeling", *IEEE Transactions on Network Science and Engineering (TNSE)*, 9(4):2922-2939, July-Aug 2022.
13. Iresha Mohottige, **Hassan Habibi Gharakheili**, Tim Moors and Vijay Sivaraman, "Modeling Classroom Occupancy using Data of WiFi Infrastructure in a University Campus", *IEEE Sensors Journal*, 22(10):9981-9996, May 2022.

14. Tara Sutjarittham, **Hassan Habibi Gharakheili**, Salil Kanhere and Vijay Sivaraman, "Estimating Passenger Queue for Bus Resource Optimization using LoRaWAN-enabled Ultrasonic Sensors", *IEEE Systems Journal (ISJ)*, 16(4):6265-6276, Mar 2022.
15. Iresha Mohottige, **Hassan Habibi Gharakheili**, Arun Vishwanath, Salil Kanhere and Vijay Sivaraman, "Understanding and Reducing HVAC Power Consumption Post Evacuation Events in Commercial Buildings", *IEEE Internet of Things Journal (IoT-J)*, 9(18):17235-17248, Feb 2022.
16. Mohammad Hossein Chinaei, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Optimal Witnessing of Healthcare IoT Data Using Blockchain Logging Contract", *IEEE Internet of Things Journal (IoT-J)*, 8(12):10117-10130, Jun 2021.
17. Minzhao Lyu, **Hassan Habibi Gharakheili**, Craig Russell and Vijay Sivaraman, "Hierarchical Anomaly-Based Detection of Distributed DNS Attacks on Enterprise Networks", *IEEE Transactions on Network and Service Management (TNSM)*, 18(1):1031-1048, Mar 2021.
18. Tara Sutjarittham, **Hassan Habibi Gharakheili**, Salil Kanhere and Vijay Sivaraman, "Monetizing Parking IoT Data via Demand Prediction and Optimal Space Sharing", *IEEE Internet of Things Journal (IoT-J)*, 9(8):5629-5644, Dec 2020.
19. Ayyoob Hamza, Dinesha Ranathunga, **Hassan Habibi Gharakheili**, Theophilus A. Benson, Matthew Roughan and Vijay Sivaraman, "Verifying and Monitoring IoTs Network Behavior using MUD Profiles", *IEEE Transactions on Dependable and Secure Computing (TDSC)*, 19(1):1-18, Jan 2022.
20. Arunan Sivanathan, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Detecting Behavioral Change of IoT Devices using Clustering-Based Network Traffic Modeling", *IEEE Internet of Things Journal (IoT-J)*, 7(8):7295-7309, Aug 2020.
21. Arunan Sivanathan, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Managing IoT Cyber-Security using Programmable Telemetry and Machine Learning", *IEEE Transactions on Network and Service Management (TNSM)*, 17(1):60-74, Mar 2020.
22. Jawad Ahmed, **Hassan Habibi Gharakheili**, Qasim Raza, Craig Russell and Vijay Sivaraman, "Monitoring Enterprise DNS Queries for Detecting Data Exfiltration from Internal Hosts", *IEEE Transactions on Network and Service Management (TNSM)*, 17(1):265-279, Mar 2020.
23. Himel Kumar, **Hassan Habibi Gharakheili**, Craig Russell and Vijay Sivaraman, "Enhancing Security Management at Software-Defined Exchange Points", *IEEE Transactions on Network and Service Management (TNSM)*, 16(4):1479-1492, Dec 2019.
24. **Hassan Habibi Gharakheili**, Arunan Sivanathan, Ayyoob Hamza and Vijay Sivaraman, "Network-Level Security for the Internet of Things: Opportunities and Challenges", *IEEE Computer*, 52(8):58-62, Aug 2019.
25. **Hassan Habibi Gharakheili**, Minzhao Lyu, Yu Wang, Himel Kumar and Vijay Sivaraman, "iTeleScope: Softwarized Network Middle-Box for Real-Time Video Telemetry and Classification", *IEEE Transactions on Network and Service Management (TNSM)*, 16(3):1071-1085, Sep 2019.
26. Tara Sutjarittham, **Hassan Habibi Gharakheili**, Salil Kanhere and Vijay Sivaraman, "Experiences with IoT and AI in a Smart Campus for Optimizing Classroom Usage", *IEEE Internet of Things Journal (IoT-J)*, 6(5):7595-7607, Oct 2019.
27. Arunan Sivanathan, **Hassan Habibi Gharakheili**, Franco Loi, Adam Radford, Chamith Wijenayake, Arun Vishwanath and Vijay Sivaraman, "Classifying IoT Devices in Smart Environments Using Network Traffic Characteristics", *IEEE Transactions on Mobile Computing (TMC)*, 18(8):1745-1759, Aug 2019.
28. Vijay Sivaraman, **Hassan Habibi Gharakheili**, Clinton Fernandes, Narelle Clark and Tanya Karliychuk, "Security and Privacy Implications of Smart IoT Devices in the Home", *IEEE Technology and Society Magazine*, 37(2):71-79, Jun 2018.

29. Aous Thabit Naman, Yu Wang, **Hassan Habibi Gharakheili**, Vijay Sivaraman and David Taubman, "Responsive High Throughput Congestion Control for Interactive Applications over SDN-Enabled Networks", *Computer Networks (Elsevier)*, 134(7):152-166, Apr 2018.
30. **Hassan Habibi Gharakheili**, Vijay Sivaraman, Tim Moors, Arun Vishwanath, John Matthews and Craig Russell, "Enabling Fast and Slow Lanes for Content Providers Using Software Defined Networking", *IEEE/ACM Transactions on Networking (ToN)*, 25(3):1373-1385, Jun 2017.
31. **Hassan Habibi Gharakheili**, Vijay Sivaraman, Arun Vishwanath, Luke Exton, John Matthews and Craig Russell, "SDN APIs and Models for Two-Sided Resource Management in Broadband Access Networks", *IEEE Transactions on Network and Service Management (TNSM)*, 13(4):823-834, Dec 2016.
32. **Hassan Habibi Gharakheili**, Arun Vishwanath and Vijay Sivaraman, "An Economic Model for a New Broadband Ecosystem Based on Fast and Slow Lanes", *IEEE Network Magazine*, 30(2):26-31, Mar-Apr 2016.
33. **Hassan Habibi Gharakheili**, Arun Vishwanath and Vijay Sivaraman, "Perspectives on Net Neutrality and Internet Fast-Lanes", *ACM Computer Communications Review (CCR)*, 46(1):64-69, Jan 2016.
34. **Hassan Habibi Gharakheili**, Arun Vishwanath and Vijay Sivaraman, "Comparing Edge and Host Traffic Pacing in Small Buffer Networks", *Computer Networks (Elsevier)*, 77:103-116, Feb 2015.

Conference Papers:

35. Savindu Wannigama, Arunan Sivanathan, Ayyoob Hamza and **Hassan Habibi Gharakheili**, "Unveiling Behavioral Transparency of Protocols Communicated by IoT Networked Assets", *IEEE WoWMoM workshop on Smart Computing for Smart Cities (SC2)*, Perth, Australia, Jun 2024.
36. Song Guo, Minzhao Lyu and **Hassan Habibi Gharakheili**, "Realizing Open and Decentralized Marketplace for Exchanging Data of Expected IoT Behaviors", *IEEE/IFIP NOMS*, Seoul, Korea, May 2024.
37. Jiawang Zeng, Deepak Mishra, **Hassan Habibi Gharakheili** and Aruna Seneviratne, "Secure Energy Efficiency Fairness Maximisation in Backscatter Throughput Constrained UAV-Assisted Data Collection", *IEEE ICASSP*, Seoul, Korea, Apr 2024.
38. Yijia Zhang, Deepak Mishra, **Hassan Habibi Gharakheili** and Derrick Wing Kwan Ng, "UAV Operation Time Minimization for Wireless-Powered Data Collection", *IEEE ICASSP*, Seoul, Korea, Apr 2024.
39. Aleksandar Pasquini, Rajesh Vasa, **Hassan Habibi Gharakheili**, Irini Logothetis, Minh Tran and Alexander Chambers, "Exploring the Reliability of IoT Packet Classifiers: An Experimental Study", *IEEE Globecom workshop on AI/ML for Edge/Fog Networks (A4E)*, Kuala Lumpur, Malaysia, Dec 2023.
40. Hugo Sullivan, Arunan Sivanathan, Ayyob Hamza and **Hassan Habibi Gharakheili**, "Programmable Active Scans Controlled by Passive Traffic Inference for IoT Asset Characterization", *IEEE/IFIP NOMS workshop on Internet of Things Management (Manage-IoT)*, Miami, FL, USA, May 2023.
41. Jawad Ahmed, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Learning-Based Detection of Malicious Hosts by Analyzing Non-Existent DNS Responses", *IEEE Globecom*, Rio de Janeiro, Brazil, Dec 2022.
42. Daravichet Tin, Maryam Shahpasand, **Hassan Habibi Gharakheili** and Gustavo Batista, "Classifying Time-Series of IoT Flow Activity using Deep Learning and Intransitive Features", *IEEE SKIMA*, Phnom Penh, Cambodia, Dec 2022.
43. Arman Pashamokhtari, Arunan Sivanathan, Ayyoob Hamza and **Hassan Habibi Gharakheili**, "PicP-MUD: Profiling Information Content of Payloads in MUD Flows for IoT Devices", *IEEE WoWMoM workshop on Smart Computing for Smart Cities (SC2)*, Belfast, United Kingdom, Jun 2022.
44. Sharat Madanapalli, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Know Thy Lag: In-Network Game Detection and Latency Measurement", *PAM*, Virtual Conference, Mar 2022.

45. Jay Anand, Arunan Sivanathan, Ayyoob Hamza and **Hassan Habibi Gharakheili**, "PARVP: Passively Assessing Risk of Vulnerable Passwords for HTTP Authentication in Networked Cameras", *ACM CoNEXT workshop on Descriptive Approaches to IoT Security, Network, and Application Configuration (DAI-SNAC)*, Virtual Conference, Dec 2021.
46. Arman Pashamokhtari, Norihiro Okui, Yutaka Miyake, Masataka Nakahara and **Hassan Habibi Gharakheili**, "Inferring Connected IoT Devices from IPFIX Records in Residential ISP Networks", *IEEE LCN*, Virtual Conference, Oct 2021.
47. Sharat Madanapalli, Alex Mathai, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "ReCLive: Real-Time Classification and QoE Inference of Live Video Streaming Services", *IEEE/ACM IWQoS*, Virtual Conference, Jun 2021.
48. Arman Pashamokhtari, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Progressive Monitoring of IoT Networks Using SDN and Cost-Effective Traffic Signatures", *ACM ETSecIoT*, Sydney, Australia, Apr 2020.
49. Iresha Mohottige, **Hassan Habibi Gharakheili**, Arun Vishwanath, Salil Kanhere and Vijay Sivaraman, "Evaluating Emergency Evacuation Events Using Building WiFi Data", *ACM/IEEE IoTDI*, Sydney, Australia, Apr 2020.
50. Sharat Madanapalli, Arunan Sivanathan, **Hassan Habibi Gharakheili**, Vijay Sivaraman, Santosh Patil and Byju Pularikkal, "Modeling and Monitoring Wi-Fi Calling Traffic in Enterprise Networks Using Machine Learning", *IEEE LCN*, Osnabruck, Germany, Oct 2019.
51. Arunan Sivanathan, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Inferring IoT Device Types from Network Behavior Using Unsupervised Clustering", *IEEE LCN*, Osnabruck, Germany, Oct 2019.
52. Sharat Madanapalli, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Assisting Delay and Bandwidth Sensitive Applications in a Self-Driving Network", *ACM Sigcomm workshop on Network Meets AI & ML (NetAI)*, Beijing, China, Aug 2019.
53. Sharat Madanapalli, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Inferring Netflix User Experience from Broadband Network Measurement", *IEEE/IFIP TMA*, Paris, France, Jun 2019.
54. Tara Sutjarittham, Gary Chen, **Hassan Habibi Gharakheili**, Vijay Sivaraman and Salil Kanhere, "Measuring and Modeling Car Park Usage: Lessons Learned from a Campus Field-Trial", *IEEE WoWMoM*, Washington DC, USA, Jun 2019.
55. Ayyoob Hamza, **Hassan Habibi Gharakheili**, Theo Benson and Vijay Sivaraman, "Detecting Volumetric Attacks on IoT Devices via SDN-Based Monitoring of MUD Activity", *ACM SOSR*, San Jose, California, USA, Apr 2019.
56. Vijay Sivaraman, Sharat Madanapalli, Himal Kumar and **Hassan Habibi Gharakheili**, "OpenTD: Open Traffic Differentiation in a Post-Neutral World", *ACM SOSR*, San Jose, California, USA, Apr 2019.
57. Minzhao Lyu, **Hassan Habibi Gharakheili**, Craig Russell and Vijay Sivaraman, "Mapping an Enterprise Network by Analyzing DNS Traffic", *Passive and Active Measurement (PAM)*, Puerto Varas, Chile, Mar 2019.
58. Jawad Ahmed, **Hassan Habibi Gharakheili**, Qasim Raza, Craig Russell and Vijay Sivaraman, "Real-Time Detection of DNS Exfiltration and Tunneling from Enterprise Networks", *IFIP/IEEE IM*, Washington DC, USA, Apr 2019.
59. Arunan Sivanathan, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Can We Classify an IoT Device Using TCP Port Scan?", *IEEE ICIAfS*, Colombo, Sri Lanka, Dec 2018.
60. Iresha Mohottige, Thanchanok Sutjarittham, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Role of Campus WiFi Infrastructure for Occupancy Monitoring in a Large University", *IEEE ICIAfS*, Colombo, Sri Lanka, Dec 2018.

61. Thanchanok Sutjarittham, **Hassan Habibi Gharakheili**, Salil Kanhere and Vijay Sivaraman, "Realizing a Smart University Campus: Vision, Architecture, and Implementation", *IEEE ANTS*, Radisson Blu, Indore, India, Dec 2018.
62. Ayyoob Hamza, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Combining MUD Policies with SDN for IoT Intrusion Detection", *ACM Sigcomm workshop on IoT Security and Privacy (IoT S&P)*, Budapest, Hungary, Aug 2018.
63. Ayyoob Hamza, Dinesha Ranathunga, **Hassan Habibi Gharakheili**, Matthew Roughan and Vijay Sivaraman, "Clear as MUD: Generating, Validating and Applying IoT Behavioral Profiles", *ACM Sigcomm workshop on IoT Security and Privacy (IoT S&P)*, Budapest, Hungary, Aug 2018.
64. Sharat Chandra Madanapalli, Minzho Lyu, Himel Kumar, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Real-time Detection, Isolation and Monitoring of Elephant Flows using Commodity SDN System", *IEEE/IFIP NOMS workshop on Experience Sessions*, Taipei, Taiwan, Apr 2018.
65. Thanchanok Sutjarittham, **Hassan Habibi Gharakheili**, Salil Kanhere and Vijay Sivaraman, "Data-Driven Monitoring and Optimization of Classroom Usage in a Smart Campus", *ACM IPSN*, Porto, Portugal, Apr 2018.
66. Thanchanok Sutjarittham, **Hassan Habibi Gharakheili**, Salil Kanhere and Vijay Sivaraman, "Demo Abstract: A Tool to Access and Visualize Classroom Attendance Data from a Smart Campus", *ACM IPSN Demos*, Porto, Portugal, Apr 2018.
67. **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Cloud Assisted Home Networks", *ACM CoNEXT workshop on Cloud Assisted Networks (CAN)*, Incheon, Republic of Korea, Dec 2017.
68. Prithvi Sriram, Veera Datla, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Enhancing Visibility into Home Networks using SDN", *IEEE ANTS*, Odisha, India, Dec 2017.
69. Arunan Sivanathan, Franco Loi, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Experimental Evaluation of Cybersecurity Threats to the Smart-Home", *IEEE ANTS*, Odisha, India, Dec 2017.
70. Franco Loi, Arunan Sivanathan, **Hassan Habibi Gharakheili**, Adam Radford and Vijay Sivaraman, "Systematically Evaluating Security and Privacy for Consumer IoT Devices", *ACM CCS collocated workshop on IoT Security and Privacy (IoT S&P)*, Texas, USA, Nov 2017.
71. Minzhao Lyu, Daniel Sherratt, Arunan Sivanathan, **Hassan Habibi Gharakheili**, Adam Radford and Vijay Sivaraman, "Quantifying the Reflective DDoS Attack Capability of Household IoT Devices", *ACM WiSec*, Boston, USA, Jul 2017.
72. Arunan Sivanathan, Daniel Sherratt, **Hassan Habibi Gharakheili**, Adam Radford, Chamith Wijenayake, Arun Vishwanath and Vijay Sivaraman, "Characterizing and Classifying IoT Traffic in Smart Cities and Campuses", *IEEE INFOCOM workshop on Smart Cities and Urban Computing (SmartCity)*, Atlanta, Georgia, USA, May 2017.
73. Arunan Sivanathan, Daniel Sherratt, **Hassan Habibi Gharakheili**, Vijay Sivaraman and Arun Vishwanath, "Low-Cost Flow-Based Security Solutions for Smart-Home IoT Devices", *IEEE ANTS*, Bangalore, India, Nov 2016.
74. Yu Wang, Chayut Orapinpatipat, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "TeleScope: Flow-Level Video Telemetry using SDN", *European Workshop on Software Defined Networks (EWSDN)*, The Hague, Netherlands, Oct 2016.
75. **Hassan Habibi Gharakheili**, Luke Exton and Vijay Sivaraman, "Managing Home Routers from the Cloud using Software Defined Networking", *IEEE Consumer Communications and Networking Conference (CCNC)*, Las Vegas, Nevada, USA, Jan 2016.
76. **Hassan Habibi Gharakheili**, Luke Exton, Vijay Sivaraman, John Matthews and Craig Russell, "Third-party Customization of Residential Internet Sharing using SDN", *International Telecommunication Networks and Applications Conference (ITNAC)*, Sydney, Australia, Dec 2015.

77. Vijay Sivaraman, **Hassan Habibi Gharakheili**, Arun Vishwanath, Roksana Boreli and Olivier Mehani, "Network-Level Security and Privacy Control for Smart-Home IoT Devices", *IEEE WiMoB Workshop on Internet of Things Communications and Technologies (STWiMob)*, Abu Dhabi, UAE, Oct 2015.
78. **Hassan Habibi Gharakheili**, Vijay Sivaraman, Arun Vishwanath, Luke Exton, John Matthews and Craig Russell, "Broadband Fast-Lanes with Two-Sided Control: Design, Evaluation and Economics", *IEEE/ACM IWQoS*, Portland, Oregon, USA, Jul 2015.
79. **Hassan Habibi Gharakheili**, Arun Vishwanath and Vijay Sivaraman, "Pricing User-Sanctioned Dynamic Fast-Lanes Driven by Content Providers", *IEEE INFOCOM workshop on Smart Data Pricing (SDP)*, Hong Kong, Apr 2015.
80. Sukhvir Notra, Muhammad Siddiqi, **Hassan Habibi Gharakheili**, Vijay Sivaraman and Roksana Boreli, "An Experimental Study of Security and Privacy Risks with Emerging Household Appliances", *IEEE CNS Workshop on Security and Privacy in Machine-to-Machine Communications (M2MSec)*, San Francisco, USA, Oct 2014.
81. **Hassan Habibi Gharakheili**, Jacob Bass, Luke Exton and Vijay Sivaraman, "Personalizing the Home Network Experience using Cloud-Based SDN", *IEEE WoWMoM workshop on SDN Architectures and Applications*, Sydney, Australia, Jun 2014.
82. Himel Kumar, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "User Control of Quality of Experience in Home Networks using SDN", *IEEE ANTS*, Chennai, India, Dec 2013.
83. Vijay Sivaraman, Tim Moors, **Hassan Habibi Gharakheili**, Dennis Ong, John Matthews and Craig Russell, "Virtualizing the Access Network via Open APIs", *ACM CoNEXT*, Santa Barbara, California, USA, Dec 2013.
84. **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Virtualizing National Broadband Access Infrastructure", *ACM CoNEXT student workshop*, Santa Barbara, California, USA, Dec 2013.
85. **Hassan Habibi Gharakheili**, Arun Vishwanath and Vijay Sivaraman, "Edge versus Host Pacing of TCP Traffic in Small Buffer Networks", *IFIP Networking*, Brooklyn, New York, USA, May 2013.
86. Pooya Ansarimehr, Saeedeh Barghinia, Zahra Mirsepassi and **Hassan Habibi Gharakheili**, "Identification and Modification of Improper Load Data used in Short-Term Load Forecasting", *IEEE PowerTech*, St. Petersburg, Russia, Jun 2005.
87. Pooya Ansarimehr, Saeedeh Barghinia, **Hassan Habibi Gharakheili** and Nasser Vafadar, "Short Term Load Forecasting for Iran National Power System using Artificial Neural Network and Fuzzy Expert System", *IEEE Power System Technology (PST)*, Kunming, China, Oct 2002.
88. Saeedeh Barghinia, Pooya Ansarimehr, **Hassan Habibi Gharakheili** and Nasser Vafadar, "Short Term Load Forecasting of Iran National Power System using Artificial Neural Network", *IEEE PowerTech*, Porto, Portugal, Sep 2001.

#### Patents:

89. Ayyoob Hamza, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Apparatus and Process for Monitoring Network Behaviour of Internet-of-Things (IoT) Devices", *U.S. Patent No. 11,743,153*, granted Aug 2023.
90. Arunan Sivanathan, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "An IoT Device Classification Apparatus and Process", *U.S. Patent No. 11,570,070*, granted Jan 2023.
91. Jay Anand, Arunan Sivanathan, Ayyoob Hamza, Ziwei Long and **Hassan Habibi Gharakheili**, "Computer-Implemented Method and System for Assessing the Risk Status of One or More Networked Devices Using Best Practice Guidelines", *PCT Patent PCT/AU2022/051204*, filed Oct 2022.

92. **Hassan Habibi Gharakheili**, Ayyoob Hamza and Vijay Sivaraman, "Combining Device Behavioral Models and Building Schema for Cyber-Security of Large-Scale IoT Infrastructure", *PCT Patent PCT/IB2022/058136*, filed Aug 2022.
93. Yu Wang, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Method and Apparatus for Identifying and Classifying Video-Data", *U.S. Patent No. 11,418,420*, granted Aug 2022.
94. Ayyoob Hamza, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Apparatus and Process for Detecting Network Security Attacks on IoT Devices", *U.S. Patent No. 11,374,835*, granted Jun 2022.
95. Arman Pashamokhtari, Arunan Sivanathan, Ayyoob Hamza and **Hassan Habibi Gharakheili**, "Apparatus and Process for Monitoring Network Traffic of Networked Assets", *AU Provisional Patent 2022901601*, filed Jun 2022.
96. Sharat Madanapalli, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Process and Apparatus for Estimating Real-Time Quality of Experience", *PCT Patent WO2020227781A1*, filed May 2020.
97. Sharat Madanapalli, **Hassan Habibi Gharakheili** and Vijay Sivaraman, "Apparatus and Process for Detecting, Identifying, and Estimating User Experience of Online Games", *PCT Patent WO2021042173A1*, filed Sep 2020.
98. Vijay Sivaraman, Sharat Madanapalli, Himal Kumar and **Hassan Habibi Gharakheili**, "Network Bandwidth Apportioning", *PCT Patent WO2020172721A1*, filed Feb 2020.

RFC:

99. Michael Richardson, Jacques Latour and **Hassan Habibi Gharakheili**, "Loading Manufacturer Usage Description (MUD) URLs from QR Codes", May 2022.

*Last updated: April 3, 2024*