Wenqin SHAO

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https://wenqinshao.github.io/

With 10 years of hands-on experience in applied research within the network AI domain, I have navigated a rich landscape of activities in multicultural environments. My journey encompasses groundbreaking research, product development, protocol standardization, adept team and project management, and successful collaborations with academic partners.

Work Experience

May 2021–today	**Principal Engineer – Huawei Paris Research Center – France** – Implemented RAG-powered security LLM system for network intrusion analysis. – Trained multi-modal models for enhanced malicious traffic intention classification by contrasting traffic representation against system logs and expert text descriptions. – Initiated and maintained partnerships (in form of research projects, labs) with prominent academic institutions such as Technische Universität München (TUM) and Politecnico di Torino (Polito) to solve company research challenges.
Dec. 2017–May 2021	**Research Engineer – Cisco Systems – France** – Led the research efforts behind the IOS-XR feature AI-Driven Telemetry (ADT), culminating in a patented lightweight event-oriented summarization solution for network telemetry. – Developed and authored IETF standard RFC 8801, a pivotal component for IPv6 networking across multiple providers. This standard played a crucial role in promoting IPv6 adoption. More details available at: `https://github.com/WenqinSHAO/pvd-dev`; – Contributed significantly to a non-intrusive content-aware request routing network solution, enhancing cache hit ratios for video streaming.
Mar. 2014–Nov. 2017	**PhD candidate – Telecom Paris – France** – Developed an innovative outbound traffic engineering scheme with traffic modeling, optimizing up to 90% of traffic. Validated through real network data; – Developed an algorithm to identify the root cause of large-scale performance issues in the Internet. Employed associative analysis of massive latency measurements in conjunction with Internet topology inference.
Oct. 2016-Dec. 2016	**Network Analyst (intern) – Google – Switzerland** – Implemented a quasi-realtime data analytics pipeline for campus WiFi service quality monitoring and anomaly detection.

Education

2014–2017	Ph.D., Measurement-based Inter-domain Traffic Engineering, Telecom ParisTech, France, `https://github.com/WenqinSHAO/mythesis/blob/master/ClassicThesis.pdf`.
2010–2013	M.Eng., Communication networks, Telecom ParisTech, France. GPA 3.99/4.0
2006–2010	B.Eng., Telecommunications, Fudan Univeristy, China. GPA 3.58/4.0, ranking 5/53

Language

English	full professional proficiency
French	full professional proficiency
Chinese	mother tongue

Presentation

2014	**Polish Network Operators Group Meeting (PLNOG)**, 13^{th} edition, Internet traffic engineering with LISP, `http://youtu.be/APt954bGYAM`.
2016	**North American Network Operators' Group (NANOG)**, 67^{th} edition, Measurement-based interdomain traffic engineering, `https://youtu.be/V5k1pXgD66M`.
2022	**MPLS SD&AI Networld '22**, BGP Route Security Analysis and Detection, `https://www.uppersideconferences.com/mpls-sdn-nfv/2022/mplswc_2022_speakers.html`

Publication

Data/AI for networking	"Improve Round-Trip Time Measurement Quality via Clustering in Inter-Domain Traffic Engineering,", **IEEE AnNet**, 2016 "Missing measurements on RIPE Atlas," *ACM CoNEXT Student Workshop*, 2016 "One-to-one matching of RTT and path changes," **ITC**, 2017 "Semantic feature selection for network telemetry event description," **IEEE/IFIP NOMS**, 2020 "DESTIN: detecting state transitions in network elements," **IEEE/IFIP IM**, 2021 "Detection of state transitions in network elements: On-box demo," **IEEE/IFIP IM**, 2021 "Data-driven identification and selection of features related to a state change of a network component," **US Patent US11115280B2**, 2021
BGP traffic engineering	"On the use of BGP communities for fine-grained inbound traffic engineering," *arXiv*, 2015 "Scalable BGP prefix selection for effective inter-domain traffic engineering," **IEEE/IFIP NOMS**, 2016
Forwarding and routing	"A content-aware data-plane for efficient and scalable video delivery,", **IEEE/IFIP NOMS**, 2019 "Demonstrating the cost of collecting in-network measurements for high speed VNFs," **TMA**, 2019 "Discovering provisioning domain names and data," **IETF RFC 8801**, 2020