

Serhat Arslan

✉ 12serhat.arslan@gmail.com | 🌐 yuba.stanford.edu/~sarslan/

EDUCATION

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- Stanford University, School of Engineering** Stanford, California
- ✓ *Ph.D. in Electrical Engineering, Advised by Prof. Nick McKeown, and Prof. Sachin Katti* 2020 – 2024
 - ✓ *Thesis: Pushing Transport Latency Down Towards Its Physical Limits In Data Centers With Programmable Architectures and Algorithms*
 - ✓ *M.S. in Electrical Engineering GPA: 3.94 / 4.00* 2018 – 2020
- Koç University, College of Engineering** İstanbul, Türkiye
- ✓ *B.S. in Electrical and Electronics Engineering GPA: 4.17 / 4.00* 2012 – 2016
 - ✓ *Top ranking student among the engineering school, **Salutatorian** among the university*

PROFESSIONAL EXPERIENCE

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- Nvidia Corporation – Senior Host System Architect, GPU Networking** Remote, Maryland, 2024 – Present
- ✓ *Protocol and Algorithm evaluations under the Networking Software & Systems Architecture team*
- Intel Corporation – Senior AI Network and Transport Layer Modeling Engineer** Remote, Maryland, 2024 – 2025
- ✓ *Silicon Product Architect under the Networking Product & Platform Architecture team*
 - ✓ *Developed the behavioral model of AI connectivity solutions in C++ for large scale performance evaluations*
- Google LLC – Core Systems Infrastructure, Software Engineering Intern** Remote, California, 2021 – 2022
- ✓ *Designed Bolt, a data center congestion control algorithm (see the publication above)*
 - *Utilized **P4 language** and **C++** to develop and test the algorithm on programmable switches.*
- Google LLC – Cloud Network Analytics, Software Engineering Intern** Sunnyvale, California, 2020 – Summer
- ✓ *Worked on network performance estimation project.*
 - *Designed measurement techniques and **Machine Learning Models** to estimate current network state.*
- Vodafone – IP CPN (Converged Packet Network) L2 Senior Specialist** İstanbul, Türkiye, 2017 – 2018
- ✓ *Migrated services from gateways to new edge routers for consolidation and cost reduction in the network.*
 - ✓ *Reduced operational workload from hours to minutes via the Data Center Device Status Monitoring Tool*
 - *Developed a **Python** program that collects current information from devices and produce report.*
 - ✓ *Integrated and operated Carrier Grade NAT Devices.*
- Vodafone – Discover Young Talent Program Attendee** İstanbul, Türkiye, 2016 – 2017
- Rotation 1: @ PS (Packet Switch) Core Network 2nd Level Operations Management**
- ✓ *Installed and documented the location based policy application via DPI infrastructure.*
 - ✓ *Installed and documented the audit logging on all devices of PS Core Network's portfolio.*
 - ***Shell Scripts** to regularly collect logging files to a central location.*
 - ✓ *Tested new protocol pack releases of DPI Vendor for approval on live migration.*
- Rotation 2: @ Data Services Department**
- ✓ *Conducted market research for NFV-SDN technology opportunities for the business.*
 - ✓ *Tested new home gateway firmware releases of Vendors.*

PUBLICATIONS & RESEARCH

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- Serhat Arslan, Sundararajan Renganathan, Bruce Spang “**Green With Envy: Unfair Congestion Control Algorithms Can Be More Energy Efficient**” *In Proceedings of the 22nd ACM Workshop on Hot Topics in Networks (HotNets '23)*
- Serhat Arslan, Yuliang Li, Gautam Kumar, Nandita Dukkupati “**Bolt: Sub-RTT Congestion Control for Ultra-Low Latency**” *In Proceedings of 20th USENIX Symposium on Networked Systems Design and Implementation (NSDI '23)*

Serhat Arslan, Ali Abedi, Sachin Katti “**d-Cellular Trust-Free Connectivity in Decentralized Cellular Networks**” (Best Paper) *In Proceedings of IEEE Future Networks World Forum (FNWF '23)*

S.V.R. Anand, Serhat Arslan, Rajat Chopra, Sachin Katti, Milind Kumar Vaddiraju, Ranvir Rana, Peiyao Sheng, Himanshu Tyagi, Pramod Viswanath “**Trust-free Service Measurement and Payments for Decentralized Cellular Networks**” *In Proceedings of the 21st ACM Workshop on Hot Topics in Networks (HotNets '22)*

Serhat Arslan, Stephen Ibanez, Alex Mallery, Changhoon Kim, Nick McKeown “**NanoTransport: A Low-Latency, Programmable Transport Layer for NICs**” *In Proceedings of the Symposium on SDN Research (SOSR '21). ACM*

Stephen Ibanez, Alex Mallery, Serhat Arslan, Theo Jepsen, Muhammad Shahbaz, Changhoon Kim, Nick McKeown “**The nanoPU: A Nanosecond Network Stack for Datacenters**” *15th USENIX Symposium on Operating Systems Design and Implementation (OSDI 21)*

Bruce Spang, Serhat Arslan, Nick McKeown “**Updating the Theory of Buffer Sizing**” *IFIP Performance Conference 2021. Journal of Performance Evaluation (PEVA) 151:102232, 2021*

Serhat Arslan, Nick McKeown “**Switches Know the Exact Amount of Congestion**” *In Proceedings of Buffer Sizing Workshop (BS '19). ACM, December 2019*

Serhat Arslan, Mo Tiwari, Chris Piech “**Using Google Search Trends to Estimate Global Patterns in Learning**” *In Proceedings of the Seventh (2020) ACM Conference on Learning @ Scale (L@S '20)*

ACTIVITIES

- ✓ **ACM Internet Measurement Conference**, *Technical Program Committee, 2026*
- ✓ **IEEE International Conference on Computer Communications**, *Technical Program Committee, 2026*
- ✓ **IEEE/ACM Transactions on Networking**, *Reviewer, 2024*
- ✓ **TheNetworkingChannel Panel** (How to give an interesting talk for a SIGCOMM/NSDI or similar audience?), *Organizer and Moderator, 2023*
- ✓ **EuroSys Conference**, *Shadow Program Committee, 2021*
- ✓ **Association for Evaluation and Accreditation of Engineering Programs (MUDEK)**, *Student Evaluator, 2016*
- ✓ **Yeniköy Rotaract Club**, *Founding President, 2014 – 2015, Member, 2015 - 2018*

COMPUTER LITERACY

<i>Python</i>	★★★★★
<i>C/C++</i>	★★★★★
<i>P4</i>	★★★★★
<i>Shell Scripting</i>	★★★★

AWARDS & ACHIEVEMENTS

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| ✓ Koç University; President’s Award | 2016 |
| ✓ Koç University; Dean of Students Special Award | 2016 |
| ✓ Koç University; Vehbi Koç Scholar | 2012-2016 |
| ✓ Hisar Schools; Mehpare Taki Edin Social Services Award | 2012 |

TEACHING

- ✓ **Stanford University, Advanced Topics in Networking (CS 244)**, *Teaching Assistant* 2021 Spring
- ✓ **Stanford University, Introduction to Computer Networking (CS 144)**, *Teaching Assistant* 2020 Autumn
- ✓ **CS Bridge (csbridge.stanford.edu)**, *Section Leader* 2016 and 2019 Summer
International program that offers an intensive summer course on Java for high school students.

ADDITIONAL INFORMATION

Selected Courses:

- ✓ *Topics in Computer Networks (Build Your Own Router)*, *Stanford University CS344, 2021 Spring*
- ✓ *Advanced Topics in Networking*, *Stanford University CS244, 2019 Spring*
- ✓ *Deep Learning*, *Stanford University CS230, 2019 Autumn*
- ✓ *Convex Optimization*, *Stanford University EE364-A, 2019 Winter*
- ✓ *Statistical Signal Processing*, *Stanford University EE278, 2018 Autumn*
- ✓ *Linear Dynamical Systems*, *Stanford University EE263, 2018 Autumn*

Languages: Turkish (Native), English (Fluent), German (A2 Certified)

Hobbies: Private pilot, Social dancing (Ballroom, Swing, Latin), Playing guitar, ukulele, and baglama