

Department of Computer Engineering  
Faculty of Engineering  
Çukurova University  
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## RESEARCH INTERESTS

Computer and wireless networking, network management and security, QoS in IP networks with a special focus on bandwidth estimation, machine learning with applications to network systems

## EDUCATION

- **Ph.D., Computer Engineering (English)**  
Çukurova University, Adana, Turkey, Feb. 2014 - Apr. 2017  
Thesis Title: *Development of New Hybrid Models for Prediction of VO<sub>2</sub>max Using Machine Learning Methods Combined with Feature Selection Algorithms*  
Advisor: Assoc. Prof. Dr. M. Fatih AKAY  
(Final CGPA: 3.79/4.00)
- **Ph.D. Researcher, Computer Science (English)**  
RWTH Aachen University, Aachen, Germany, Mar. 2013 - Jan. 2014 (fall and spring semester)
- **M.Sc., Computer Science (German)**  
Bonn-Rhein-Sieg University of Applied Sciences, Sankt Augustin, Germany, Oct. 2010  
Thesis Title: *Estimation of Internet Bandwidth: Metrics, Techniques and Tools*  
Advisor: Prof. Dr. Martin LEISCHNER (in cooperation with Fraunhofer FOCUS)  
(Final CGPA: 3.87/4.00)
- **B.Sc., Computer Science (German)**  
Bonn-Rhein-Sieg University of Applied Sciences, Sankt Augustin, Germany, Sep. 2008  
(Final CGPA: 3.13/4.00)
- **Technical Diploma as Information Technology Assistant (German)**  
Georg-Simon-Ohm Technical College, Cologne, Germany, July 2005

## EMPLOYMENT

- **Assistant Professor**, Department of Computer Engineering, Çukurova University, Adana, Turkey, **March 2020 to present**
- **Assistant Professor**, Department of Computer Engineering, Adana Alparslan Türkeş Science and Technology University, Adana, Turkey, **Oct. 2017 to March 2020 (2 years 6 months)**
- **Dr., Researcher**, Research Group of Electronic Systems and Flight Disciplines, Software Division, TÜBİTAK Defense Industries Research and Development Institute SAGE, Ankara, Turkey, **Sep. 2015 to Oct. 2017 (2 years 2 months)**
- **Researcher** (Ph.D. student), Department of Computer Engineering, Çukurova University, Adana, Turkey, **Feb. 2014 to Aug. 2015 (1 year 7 months)**
- **Researcher**, Department of Communication Systems, Fraunhofer Institute for Communication, Information Processing and Ergonomics FKIE, Wachtberg-Werthhoven, Germany, **July 2011 to Feb. 2014 (2 years 7 months)**

- **Research Assistant**, Department of Computer Science, Bonn-Rhein-Sieg University of Applied Sciences, Sankt Augustin, Germany, **Apr. 2009 to Aug. 2010 (1 year 5 months)**
- **M.Sc. Thesis Student**, Competence Center Resource Optimized Networks (RESCON), Fraunhofer Institute for Open Communication Systems FOCUS, Sankt Augustin, Germany, **Apr. 2010 to Aug. 2010 (5 months)**
- **Research Intern**, Department of Computer Science, Bonn-Rhein-Sieg University of Applied Sciences, Sankt Augustin, Germany, June 2007 to Aug. 2007
- **IT Intern**, Department of Information Processing, Gerling Corporation for Information Management and Organization, Cologne, Germany, July 2004 - Aug. 2004

## PROJECTS

Research and Social Support Projects involved at **ATÜ**:

- **Küçük Mucitler, Büyük İcatlar**  
Social Support Project (SODES) / Turkey  
Position as Project Coordinator, **June 2018 to June 2019**  
Funded by Ministry of Development
- **Feedback-Assisted Estimation of Capacity in IP-Based High-Speed Networks**  
Research project within the Computer Engineering Department / Turkey  
Position as Project Manager, **May 2018 to Aug. 2019**  
Funded by Scientific Research Projects Program (BAP)

Research Projects involved at **TÜBİTAK SAGE**:

- **SOM-J (Stand-Off Missile / Network Enabled Weapons)**  
National project / Turkey  
Position as Researcher, **Sep. 2015 to present**  
Funded by Undersecretariat for Defense Industries
- **KEMENT (Data Link Network Design and Implementation)**  
National project / Turkey  
Position as Researcher, **May 2016 to present**  
Funded by Undersecretariat for Defense Industries

Research Projects involved at **Çukurova University**:

- **Time Series Prediction of Traffic Density in 3G/UMTS Networks using Machine Learning and Statistical Methods**  
Research project within the Computer Engineering Department, supervised by Assoc. Prof. Dr. M. F. AKAY, Position as Project Researcher, **Feb. 2016 - Apr. 2017**  
Funded by TUBITAK TEYDEB
- **Predicting Maximal Oxygen Uptake Using Machine Learning Methods**  
Research project within the Computer Engineering Department, supervised by Assoc. Prof. Dr. M. F. AKAY, Position as Project Researcher, **Feb. 2015 - Apr. 2017**  
Funded by Scientific Research Projects Program (BAP)

Research Projects involved at **Fraunhofer FKIE**:

- **Protected Core Networking - Concepts & Challenges**  
NATO project among Germany, Canada, Norway, Sweden, France, Italy, Poland and Turkey  
Position as Research Scientist, **May 2013 to Sep. 2013 (5 months)**  
Funded by NATO
- **Community Networks Testbed for the Future Internet (CONFINE)**  
EU project among Germany, Spain, England, Greece and Austria  
Position as Research Scientist, **Mar. 2012 to Feb. 2014 (1 year 11 months)**  
Funded by EU
- **Coalition Networks for Secure Information Sharing (CoNSIS)**  
International project among Germany, France, Norway and USA  
Position as Research Scientist, **July 2011 to Feb. 2014 (2 years 7 months)**  
Funded by Ministries of Defence of the participating countries

Research Projects involved at **Bonn-Rhein-Sieg University of Applied Sciences**:

- **Passive Measurement of End-to-End Round Trip Times in TCP Connections**  
Research project within the Computer Science Department, supervised by Prof. Dr. Martin LEI-SCHNER, Position as Research Assistant, **Apr. 2009 - Aug. 2010 (1 year 5 months)**
- **Formal Modeling and Automated Verification of Cryptographic Internet Protocols**  
Research project within the Computer Science Department, supervised by Prof. Dr. Martin LEI-SCHNER, Position as Research Assistant, **Apr. 2009 - Aug. 2010 (1 year 5 months)**

## PUBLICATIONS

### A. Journal Publications (SCI, SCI-Expanded, SSCI and AHCI )

7. **F. Abut**. „A Distributed Measurement Architecture for Inferring TCP Round-Trip Times Through Passive Measurements“. TÜBITAK Turkish Journal of Electrical Engineering and Computer Science, vol. 27, May 2019, pp. 2106-2120.
6. **F. Abut**, M.F. Akay, J. George. „A Robust Ensemble Feature Selector Based on Rank Aggregation for Developing New VO<sub>2</sub>max Prediction Models Using Support Vector Machines“. TÜBITAK Turkish Journal of Electrical Engineering and Computer Sciences, vol. 27, no. 5, pp. 3648-3664, Sep. 2019.
5. M. F. Akay, **F. Abut**, E. Çetin, I. Yarim, E. Sow. „Support Vector Machines for Predicting the Hamstring and Quadriceps Muscle Strength of College-Aged Athletes“. TÜBITAK Turkish Journal of Electrical Engineering and Computer Science, vol. 25, pp. 2567-2582, Aug. 2017.
4. **F. Abut**, M. F. Akay, J. George. „Developing New VO<sub>2</sub>max Prediction Models from Maximal, Submaximal and Questionnaire Variables Using Support Vector Machines Combined with Feature Selection“. ELSEVIER Computers in Biology and Medicine, vol. 79, pp. 182-192, Dec. 2016.
3. M. F. Akay, **F. Abut**, M. Özciloglu, D. Heil. „Identifying the Discriminative Predictors of Upper Body Power of Cross-Country Skiers Using Support Vector Machines Combined with Feature Selection“. SPRINGER Neural Computing and Applications, vol. 27, no. 6, pp. 1785-1796, Aug. 2016.

2. M. F. Akay, **F. Abut**, S. Daneshvar, D. Heil. „Prediction of Upper Body Power of Cross-Country Skiers using Support Vector Machines“. SPRINGER Arabian Journal for Science and Engineering, vol. 40, no. 4, pp. 1045-1055, Apr. 2015.
1. M. F. Akay, C. I. Aci, **F. Abut**. „Predicting the Performance Measures of a 2-Dimensional Message Passing Multiprocessor Architecture by Using Machine Learning Methods“. Neural Network World, vol. 25, no. 3, pp. 241-265, Mar. 2015.

## B. Journal Publications (Others)

12. A. K. Demir, **F. Abut**. „Data-Driven Modelling and Prediction of CoAP Throughput in a Grid Network Topology“. El-Cezeri Journal of Science and Engineering, vol. 7, no. 1, pp. 295-303, Jan. 2020.
11. **F. Abut**. „User-level Performance Evaluation of VoIP under Different Background TCP Traffic Conditions in ns-2“. European Journal of Science and Technology, vol. 16, pp. 638-645, Aug. 2019.
10. A. K. Demir, **F. Abut**. „Comparison of CoAP and CoCoA Congestion Control Mechanisms in Grid Network Topologies“. Gümüşhane University Journal of Science and Technology Institute, pp. 53-60, Dec. 2018.
9. **F. Abut**. „Through the Diversity of Bandwidth-Related Metrics, Estimation Techniques and Tools: An Overview“. Intl. Journal of Computer Network and Information Security, vol. 10, no. 8, pp. 1-16, Aug. 2018.
8. **F. Abut**, M. Leischner. „An Experimental Evaluation of Tools for Estimating Bandwidth-Related Metrics“. Intl. Journal of Computer Network and Information Security, vol. 10, no. 7, pp. 1-11, July 2018.
7. **F. Abut**, M. C. Yüksel, M. F. Akay, S. Daneshvar. „Predicting Student’s Pass/Fail Status in an Academic Course Using Deep Learning: A Case Study“. Intl. Journal of Scientific Research in Information Systems and Engineering, vol. 4, no. 1, June 2018.
6. M. F. Akay, **F. Abut**, K. Kaya, E. Cetin, I. Yarim. „New Regression Equations for Estimating the Maximal Oxygen Uptake of College of Physical Education and Sports Students in Turkey “. New Trends and Issues Proceedings on Humanities and Social Sciences, vol. 3, pp. 11-17, Mar. 2017.
5. **F. Abut**, M. F. Akay, J. D. George. „Support Vector Machines with Individual Combinations of Relief-F and mRMR for Predicting VO<sub>2</sub>max from Maximal and Questionnaire Data“. Intl. Journal of Advances in Electronics and Computer Science, vol. 3, no. 10, pp. 63-67, Nov. 2016.
4. Y. Yur, M. F. Akay, **F. Abut**. „Short Term Voice Traffic Forecast in 3G/UMTS Networks using Machine Learning and Statistical Methods“. Intl. Journal of Advances in Electronics and Computer Science, vol. 3, no. 10, pp. 108-111, Nov. 2016.
3. B. Sow, M. F. Akay, **F. Abut**, E. Çetin, I. Yarim, H. Alak. „New Regression Models for Predicting the Hamstring Muscle Strength Using Support Vector Machines“. Çukurova University Journal of the Faculty of Engineering and Architecture, vol. 31, no. 2, pp. 153-159, Oct. 2016.
2. **F. Abut**, M. F. Akay. „Machine Learning and Statistical Methods for Prediction of Maximal Oxygen Uptake: Recent Advances“. Medical Devices: Evidence and Research Journal, vol. 8, pp. 369-379, Aug. 2015.
1. **F. Abut**. „Towards a Generic Classification and Evaluation Scheme for Bandwidth Measurement Tools“. Signals and Telecommunications Journal, vol. 1, no. 2, pp. 78-88, Oct. 2012.

### C. International Conference Proceedings

14. **F. Abut**. „On Active Estimation of End-to-End Capacity: A Comparison“. In Proc. Intl. Conference on Life and Engineering Sciences (ICOLES'18), Girne, Cyprus, Sep. 2018, pp. 37-41.
13. A. K. Demir, **F. Abut**. „Data-Driven Modelling and Prediction of CoAP Throughput in a Grid Network Topology“. In Proc. of Cilicia Intl. Symposium on Engineering and Technology (CISSET'18), Mersin, Turkey, Oct. 2018, pp. 69-73.
12. **F. Abut**, M. C. Yüksel, M. F. Akay, S. Daneshvar. „Predicting student's pass/fail status in an academic course using deep learning: A case study“. In Proc. of 5th Intl. Symposium on Engineering, Artificial Intelligence and Applications (ISEAIA'17), Girne, North Cyprus, 1-3 Nov. 2017, Girne, Cyprus, Oct. 2017.
11. **F. Abut**, M. F. Akay, S. Daneshvar, D. Heil. „Artificial Neural Networks for Predicting the Racing Time of Cross-Country Skiers from Survey-Based Data“. In Proc. of IEEE 9th Intl. Conference on Computational Intelligence and Communication Networks (CICN'17), Girne, Cyprus, 16-17 Sep. 2017, pp. 71-75.
10. M. F. Akay, M. C. Yüksel, **F. Abut**, F. M. Tas, J. George. „Predicting the Maximum Endurance Time for Left-Side Bridge Exercise Using Machine Learning Methods and Hybrid Data“. In Proc. of IEEE 9th Intl. Conference on Computational Intelligence and Communication Networks (CICN'17), Girne, Cyprus, 16-17 Sep. 2017, pp. 96-100.
9. **F. Abut**, M. F. Akay, J. George. „Support Vector Machines with Individual Combinations of Relief-F And mRMR for Predicting VO<sub>2</sub>max from Maximal and Questionnaire Data“. In Proc. of Intl. Conference on Artificial Intelligence and Soft Computing (ICAISC'16), Barcelona, Spain, 18-19 Aug. 2016, pp. 9-13.
8. Y. Yur, M. F. Akay, **F. Abut**. „Short Term Voice Traffic Forecast in 3G/UMTS Networks using Machine Learning and Statistical Methods“. In Proc. of Intl. Conference on Artificial Intelligence and Soft Computing (ICAISC'16), Barcelona, Spain, 18-19 Aug. 2016, pp. 19-22.
7. **F. Abut**, M. F. Akay. „Predicting the Resonant Frequency and Q-Factor of Cylindrical Dielectric Resonators with Whispering Gallery Modes Using Tree-Structured Regression Methods“. In Proc. of Intl. Conference on Natural Science and Engineering (ICNASE'16), Kilis, Turkey, 19-20 Mar. 2016, pp. 170-176.
6. **F. Abut**, M. F. Akay, J. D. George. „Development of New Hybrid Models for Prediction of Maximal Oxygen Uptake Using Machine Learning Methods Combined with Feature Selection“. In Proc. of the Intl. Symposium on Sport Science, Engineering and Technology (ISSSET'15), Istanbul, 2015, pp. 163-170, ISBN:978-975-561-463-2.
5. **F. Abut**, E. Genc, M. F. Akay, J. D. George. „Investigating the Effects of Body Mass Index and Location Variables on the Prediction of Maximal Oxygen Uptake Using Support Vector Machines“. In Proc. of the Intl. Symposium on Sport Science, Engineering and Technology (ISSSET'15), Istanbul, 2015, pp. 54-61, ISBN:978-975-561-463-2.
4. **F. Abut**, M. F. Akay, I. Turhan, G. Özsert. „Performance Evaluation of Different Classifiers to Predict the Admission Decision of a Candidate to the School of Physical Education and Sports at Cukurova University“. In Proc. of the Intl. Symposium on Sport Science, Engineering and Technology (ISSSET'15), Istanbul, 2015, pp. 178-184, ISBN:978-975-561-463-2.
3. M. Özciloglu, **F. Abut**, M. F. Akay, D. Heil. „Feature Selection for Prediction of Upper Body Power of Cross-Country Skiers Using Different Machine Learning Methods“. In Proc. of the Intl.

Symposium on Sport Science, Engineering and Technology (ISSSET'15), Istanbul, 2015, pp. 82-89, ISBN:978-975-561-463-2.

2. **F. Abut**, D. Dennisen, D. Gläsel, J. Bogenfeld, I. Aktas, K. Wehrle, P. Sevenich. „Using Cross-Layer Design to detect Jamming Attacks in the CoNSIS Scenario“. In Proc. of the 15th IEEE Military Communications and Information Systems Conference (MCC'13), Saint-Malo, France, Oct. 8-9, 2013, pp. 563-576.
1. C. Barz, A. Diefenbach, **F. Abut**, M. Wilmes, P. Sevenich, P. Simon, N. Bret. „The CoNSIS Approaches to Network Management and Monitoring“. In Proc. of the 14th IEEE Military Communications and Information Systems Conference (MCC'12), Gdansk, Poland, Oct. 8-9 2012, pp. 161-178.

#### D. National Conference Proceedings

4. **F. Abut**, M. F. Akay. „Kros Kayakçılarda Maksimum Oksijen Tüketimine Etki Eden Değişkenlerin Makine Öğrenme ve Nitelik Seçme Algoritmalarıyla Belirlenmesi“. In Proc. of IEEE 23rd Signal Processing and Communications Applications Conference (SIU'15), Malatya, May 2015, pp. 60-63.
3. S. Daneshvar, **F. Abut**, I. Yıldız, M. F. Akay. „Farklı Makine Öğrenme Yöntemleri ile Kros Kayakçılar için Yeni Üst Vücut Gücü Tahmin Modellerinin Geliştirilmesi“. In Proc. of IEEE 23rd Signal Processing and Communications Applications Conference (SIU'15), Malatya, May 2015, pp. 164-167.
2. M. F. Akay, **F. Abut**, C. I. Aci, I. Yildiz. „Predicting the Processor and Channel Utilization of a 2-Dimensional Multiprocessor Architecture by Using Support Vector Regression Combined with Feature Selection“. In Proc. of the 8th Engineering and Technology Symposium (ETS'15), Ankara, May 2015, pp. 395-399.
1. **F. Abut**, M. F. Akay, I. Yildiz, J. D. George. „Performance Comparison of Different Machine Learning Methods for Prediction of Maximal Oxygen Uptake from Submaximal Data“. In Proc. of the 8th Engineering and Technology Symposium (ETS'15), Ankara, May 2015, pp. 367-370.

#### E. Poster Presentations

1. I. Aktas, **F. Abut**, P. Sevenich, K. Wehrle. „Cross-Layer-Koordination zur Erkennung und Behandlung von Jamming-Angriffen“. F&T Tag, Fraunhofer FKIE, Wachtberg, Germany.

#### LANGUAGE SKILLS

- Turkish (Native speaker)
- English (Full professional proficiency)
  - ÖSYM YDS 2019: 90.00/100
  - ÖSYM YÖKDİL 2019 (Natural Sciences): 93.75/100
- German (Full professional proficiency)
  - ÖSYM YDS 2018: 95.0/100
  - ÖSYM ÜDS 2012 (Natural Sciences): 97.5/100
- French (Elementary proficiency)

## **ACHIEVEMENTS AND AWARDS**

- Ph.D. graduation in Computer Engineering with excellence (three years)  
Çukurova University, 2017
- Master graduation in Computer Science with excellence  
Bonn-Rhein-Sieg University of Applied Sciences, 2010
- Bachelor graduation in Computer Science with Dean's honours  
Bonn-Rhein-Sieg University of Applied Sciences, 2008
- Class Rank #1 (with another student) among the graduates  
Georg-Simon-Ohm Technical College, 2005

## **TEACHING EXPERIENCE / COURSES TAUGHT**

- Undergraduate Courses (B.Sc.)
  - Network Programming
  - Network Security
  - Web Design and Programming
- Graduate Courses (M.Sc. & Ph.D)
  - Network Management and Administration
  - Network Measurements
  - Higher Layer Network Protocols
  - Web Application Security

## **TRAINING COURSES AND CERTIFICATES**

- Operational Efficiencies of Multi-Link Capabilities  
Certified by Atheniem, Maastricht, Netherland, 1 Nov. 2016
- ISO/IEC 12207 - Systems and software engineering / Software life cycle processes  
Certified by NITELIK Software Consultancy, Ankara, Turkey, 28. - 30. Dec. 2015
- IPv6 Deployment on Internet Service Providers Networks - Strategies for the Migration  
Certified by ExperTeach Networking GmbH, Wachtberg, Germany, 23. - 26. Oct. 2012
- Cisco Certified Network Associate (CCNA) Training Series 1, 2, 3 and 4  
CCNA 1 - Networking Basics  
CCNA 2 - Router and Routing Essentials  
CCNA 3 - Switching and Intermediate Routing  
CCNA 4 - WAN Technologies  
Certified by Bonn-Rhein-Sieg University of Applied Sciences, Sep. 2007 - Oct. 2009

## **REVIEWER ACTIVITIES IN SCIENTIFIC JOURNALS**

- IEEE Network Magazine (1 time)
- Turkish Journal of Electrical Engineering and Computer Sciences (3 times)
- The Journal of Network and Computer Applications (1 time)
- International Journal of Network Management (1 time)

## PROFESSIONAL AND ACADEMIC TRAVELS

- International Travels
  - ISEAIA'19, Kyrenia, North Cyprus, 6-8 March 2018
  - ICOLES'18, Kyrenia, North Cyprus, 2-6 Sep. 2018
  - CMES'18, Kyrenia, North Cyprus, 4-6 May 2018
  - IDLS'16, Maastricht, Netherland, 1-5 Nov. 2016
  - ISEAIA'15, Kyrenia, North Cyprus, 4-6 Nov. 2015
  - ISEAIA'14, Kyrenia, North Cyprus, 5-7 Nov. 2014
  - MCC'13, Saint-Malo, France, 6-10 Oct. 2013
  - CoNSIS Project Meeting, Wachtberg, Germany, 5-7 Feb. 2013
  - CoNSIS Project Meeting, Greeding, Germany, 16-21 July 2012
  - CoNSIS Project Meeting, Munich, Germany, 22-27 Apr. 2012
  - CoNSIS Project Meeting, Pertuis, France, 11-16 September 2011
- National Travels
  - TÜBITAK SAGE Project Meeting, Kocaeli, Turkey, 3-6 May 2017
  - ICNASE'16, Kilis, Turkey, 18-19 Mar. 2016
  - SIU'15, Malatya, Turkey, 16-19 May 2015
  - ISSSET'15, Istanbul, Turkey, 10-13 May 2015

## ADDITIONAL INFORMATIONS

- Non-smoker
- Hobbies in Football, Jogging and Table Tennis