

Curriculum Vita Spring 2024

Dr. Abdullah N. Arslan
Professor of Computer Science
Interim Department Head

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EDUCATION

PhD in Computer Science,	University of California, Santa Barbara, USA,	2002
MS in Computer Science,	University of North Texas, Denton, Texas, USA,	1996
BS in Computer Engineering,	Middle East Technical University, Turkey,	1990

PROFESSIONAL EXPERIENCE

2023 (March) – Present, Interim Department Head,

Texas A & M University – Commerce, Department of Comp. Sci. and Inf. Sys.

- Initiated creation of three undergraduate tracks: in AI, Data Science, and Cybersecurity
- Participated in creation of 4+1 MS in CS program, MS in AI program at university level; served as a member of AI Task Force
- Managed Promotion and Tenure Recommendations
- Formed an Industry Advisory Board
- Managed course scheduling, faculty hiring (including forming search committees), budget approvals, appeals, and other day-to-day operations,
- Served on Academic Department Head Council, College of Science and Engineering Executive Council, and Hearing Committee.

2023-Present, Professor with tenure,

Texas A & M University – Commerce, Department of Comp. Sci. and Inf. Sys.

- Taught CS courses on data structures, algorithms, software development
- Conducted research in object detection, and in optimization problems.

- Served as a member of search committee for College of Science and Engineering Dean
- Developed and tested object recognition software based on a new geometric feature; in the processes of developing a parallel algorithm for a combinatorial optimization problem.

2016-2023, Associate Professor with tenure,
Texas A & M University – Commerce, Department of Comp. Sci. and Inf. Sys.

- Taught CS courses on data structures, algorithms, software development, research and literature
- Conducted research in object detection and identification, optimization problems
- Served as the chair of graduate admissions and scholarship committee, curriculum committee, ABET preparation/assessment committee; served as the coordinator of the MS Computational Science program
- Developed and tested several image analysis programs; developed parallel algorithms for searching and for several optimization problems.

2009-2016, Assistant Professor,
Texas A & M University – Commerce, Department of Comp. Sci. and Inf. Sys.

- Taught CS courses on data structures, algorithms, software development, computer organization and machine fundamentals
- Conducted research in object detection and identification, optimization, and number theoretical problems.
- Served on the graduate admissions and scholarship committee, CS curriculum committee, ABET preparation/assessment committee; served as the co-coordinator of the MS Computational Science program, CS Faculty Senator.
- Developed and tested programs for weapon recognition from images; developed an RNA secondary structure search and comparison tool with a group of undergraduate and graduate students (this was an NSF funded project)

2002-2009, Assistant Professor,
University of Vermont, Department of Computer Science Burlington, Vermont, USA

- Taught courses in theory of computing, algorithms, operating system, computer architecture, bioinformatics.
- Conducted research in computational biology.
- Served on PhD Qualifying Exam Committee, served as webmaster, technical reports coordinator.
- Developed and tested sequential and parallel algorithms for several computational biology problems.

1996-2002, Research/Teaching Assistant, Teaching Associate,
University of California, Department of Computer Science, Santa Barbara, California, USA

- TA for many undergraduate and graduate courses; not only grading, but also teaching discussion sessions, holding office hours.
- Research Assistant half of the time.
- Taught Theory of Computation course with full responsibility.

1995-1996, Teaching Assistant/Fellow,
University of North Texas Department of Computer Science, Denton, Texas, USA

- TA for several courses,
- Taught programming courses with full responsibility as Teaching Fellow.

1991-1994, Programmer,
The Central Bank of Turkey, Ankara, Turkey

- Participated as a developer for several large-scale in-house software projects,
- Maintained several large-scale projects' software and database. The software developed was used by hundreds of users concurrently; involved large databases; and involved peer-to-peer communication between different computer systems.

1989-1991, Yumak Bilgisayar,
Ankara, Turkey

- With a team-mate, developed a full-scale Authoring Tool from scratch. Designed and fully developed a text editor, image editor with an editing tool including animation feature, a new computer language, a runtime interpreter for this language, and a scientific calculator with a graphical plotter.

PUBLICATIONS

PEER-REVIEWED JOURNAL PAPERS:

Arslan, A. N. A new framework for subimage analysis. SN Appl. Sci. 1, 1170 (2019)
doi:10.1007/s42452-019-1200-2

Arslan, A. N. (2018) A Fast Algorithm for All-Pairs Hamming Distances, Information Processing Letters 139, 49-52, <https://doi.org/10.1016/j.ipl.2018.07.006>

Arslan, A. N. (2018) Methods for constructing Collatz numbers, Notes on Number Theory and Discrete Mathematics, Volume 24, 2018, Number 2, Pages 47—54, DOI: 10.7546/nntdm.2018.24.2.47-54

Arslan, A. N., Anandan, J., Fry, E., Monschke, K., Ganneboina, N., Bowerman, J. (2017) Efficient RNA Structure Comparison Algorithms. Special Issue of J. of Bioinformatics and Computational Biology, World Scientific, Vol. 15, No. 6, 17400009, DOI: 10.1142/S02197200177400091

Arslan, A. N., He, D., He, Y., and Wu, X. (2015) Pattern Matching With Wildcards and Length Constraints. *Journal of Discrete Algorithms*, <http://dx.doi.org/10.1016/j.jda.2015.08.003>

Arslan, A. N. (2015) A Variant of Waring's Problem. *Notes on Number Theory and Discrete Mathematics*, Vol. 21, No. 3

Arslan, A. N. (2015) Fast Algorithms for Local Similarity Queries in Two Sequences. *International Journal of Foundations of Computer Science*, Vol. 26, No. 5 (2015) 625–642, DOI: 10.1142/S0129054115500355

Arslan, A. N., George, B., and Stor, K. (2015) New Algorithms for Pattern Matching with Wildcards and Constraints. *Discrete Mathematics, Algorithms, and Applications*, Vol. 7, No. 3, 1550032, DOI:10.1142/S1793830915500329

Arslan, A. N., Hempelmann, C. F., Attardo, S., Blount, G. P., and Sirakov, N. M. (2015) Threat Assessment Using Visual Hierarchy and Conceptual Firearms Ontology. *Optical Engineering*, 54(5), 053109, doi:10.1177/1.OE.54.5.053109

Arslan, A. N. (2015) Expressing Integers as Sums of Many Distinct Primes. *JP Journal of Algebra, Number Theory and Applications*, 36(1), 1-15

Kandhare, P., Arslan, A. N., Sirakov, N. M. (2014) Tracking Partially Occluded Objects with Centripetal Active Contour, *International Workshop on Combinatorial Image Processing 2014 IWCIAP*, Bruno, Czech Republic, May 2014, *Mathematics for Applications*, ISSN 1805-3610, indexed by Zentralblatt and MathSciNet. Published by the Technical University of Brno (ISBN: 80-214-020-X), <http://ma.fme.vutbr.cz/>

Wu, X., Zhu, X., He, Y., Arslan, A. N. (2013). PMBC: Pattern mining from biological sequences with wildcard constraints. *Comp. in Bio. and Med.* 43(5): 481-492

Arslan, A. N. (2008) An algorithm with linear expected running time for string editing with substitutions and substring reversals. *Information Processing Letters*, 106(5):213-218 (available online: 10.1016/j.ipl.2007.11.017)

Arslan, A. N. (2007) Regular expression constrained sequence alignment. *Journal of Discrete Algorithms*, Elsevier, 5(4), 647-661 (available online: <http://dx.doi.org/10.1016/j.jda.2007.01.003>), (the formulation of sequence alignment presented in this paper was adopted in the alignment tool RE-MuSiC as reported in an article in *Nucleic Acids Research* in 2007)

He, D., Arslan, A. N., and Ling, A. C. H. (2006) A fast algorithm for the constrained multiple sequence alignment problem. *Acta Cybernetica*, 17: 701-717

Chen, G., Wu, X., Zhu, X., Arslan, A. N., and He, Yu. (2006) Efficient string matching with wildcards and length constraints. *Knowledge and Information Systems*, 10(4):399-419 (available online DOI: 10.1007/s10115-006-0016-8)

He, D and Arslan, A. N. (2005) A space-efficient algorithm for the pairwise sequence alignment algorithm. *Genome Informatics*, 16(2): pp. 237–246

Arslan, A. N. and Egecioglu, O. (2005) Algorithms for the constrained longest common subsequence problems. *International Journal of Foundations of Computer Science*, (16)6:1099-1111, December 2005

Arslan, A. N. and Egecioglu, O. (2004) Dynamic programming based approximation algorithms for sequence alignment with constraints. *INFORMS Journal on Computing*, Special issue on Computational Molecular Biology/Bioinformatics, Vol. 16, No. 4, pp. 441-458

Arslan, A. N. and Egecioglu, O. (2004) Dictionary look-up within small edit distance. *International Journal of Foundations of Computer Science*, Vol. 15, No 1, pp. 57-71, February 2004

Arslan, A. N. and Egecioglu, O. (2002) Approximation algorithms for local alignment with length constraints. *International Journal of Foundations of Computer Science* 13:751-567

Arslan, A. N., Egecioglu, O. and Pevzner, P.A. (2001) A new approach to sequence comparison: normalized sequence alignment. *Bioinformatics* 17:327-337 (the paper proposed using length-normalized scores for eliminating mosaic and shadow effects (some undesired anomalies) that arise when the common notion of sequence similarity is used. This fractional programming algorithm is strikingly fast although the optimization problem solved is complex)

Arslan, A. N. and Egecioglu, O. (2000) Efficient algorithms for normalized edit distance. *Journal of Discrete Algorithms (Special Issue on Matching Patterns)* 1(1):3-20

PEER-REVIEWED CONFERENCE PAPERS:

Arslan, A.N. (2022) Object Detection in Images by Verifying Corners at Predicted Positions. Accepted to the 6th Computational Methods in Systems and Software Conference 2022. It will appear in the Springer Series, Data Science and Intelligent Systems, Vol. 2.

Arslan, A.N. (2022) Finding Optimal Paths of All Lengths in Directed Grid Graphs. In: Silhavy, R. (eds) *Artificial Intelligence Trends in Systems*. CSOC 2022. Lecture Notes in Networks and Systems, vol 502. Springer, Cham. https://doi.org/10.1007/978-3-031-09076-9_33

Arslan, A. N., Mete, M., and Kumari, A. (2021) RNA Secondary Structure Database, Analysis Tool-Set, and Case-Study Results on SARS-CoV-2. Proceedings of IEEE International Conference on Bioinformatics and Biomedicine (BIBM), pages: 2471-2478.

Arslan, A. N. (2020) Notes on Parallel Boolean Matrix Multiplication. Appeared in the 4th International Workshop on Synergy of Parallel Computing, Optimization and Simulation 2020 (PaCOS 2020) as part of the High Performance Computing & Simulation Conference (HPCS 2020), March 22-27, 2021, <http://hpcs2020.cisedu.info/4-program/processed-manuscripts>

Mete, M., Arslan, A. N. (2020) Graphical Processing Unit- Supported RNA Secondary Structure Comparison. Proceedings of the 12th International Conference on Bioinformatics and Computational Biology, Vol 70, 109-118.

Monschke, K. A. and Arslan, A. N. (2018) RNA Secondary Structure Graphical Rendering Library, IEEE Conference on Computational Intelligence in Bioinformatics and Computational Biology (CIBCB), 30 May-2 June 2018, St. Louis, MO, USA, DOI: 10.1109/CIBCB.2018.8404963

Tanik, U. J., Suh, S. C., Arslan, A. N., Hu, K., Bandi, H. International Convergence on the Resource Correlation Platform. SDPS 2017, Society for Design and Process Science, Nov. 2017

Arslan, A. N. and Sirakov, N. M. (2017) Shape Matching for Rigid Objects by Aligning Sequences on Boundary Change Points. V.E. Brimkov and R.P. Barneva (Eds.): IWCI 2017, LNCS 10256, pp. 308-320.

Hempelmann, C. F., Solomon, D., Arslan, A. N., Attardo, S., Blount, G. P., Sirakov, N. M. (2017) Detecting necessary and sufficient parts for assembling a functional weapon, Proceedings of SPIE 2017 Automatic Target Recognition XXVII, Anaheim, CA., doi:10.1117/12.2268808.

Anandan, J., Fry, E., Monschke, K., Arslan, A. N. A Fast Algorithm for Finding Largest Common Substructures in Multiple RNAs (2017) 9th International Conference on Bioinformatics and Computational Biology - BICOB 2017, pp. 51-56, March 20-22, Honolulu, HI, USA

Arslan, A. N., Anandan, J., Fry, E., Pandey, R., Monschke, K. (2017) A New Structure Representation for RNA and Fast RNA Substructure Search. CSCI 2016, Las Vegas, USA, Dec. 14-17, 2016 (acceptance rate: 17%), IEEE CPS, pp. pp. 1226-1231, DOI 10.1109/CSCI.2016.0231

Abu Hawas, F. and Arslan, A. N. (2017) Fast Regular Expression Matching in a Large Static Text. CSCI 2016, Las Vegas, USA, Dec. 14-17, 2016 (acceptance rate: 17%),

IEEE CPS, pp. 1304-1309. DOI: 10.1109/CSCI.2016.0244

Hempelmann, C. F., Arslan, A. N., Attardo, S., Grady P. Blount, G. P., Sirakov, N. M. (2016) Real life identification of partially occluded weapons in video frames. Proc. SPIE 9844, Automatic Target Recognition XXVI, 98440Y (May 12, 2016); doi: 10.1117/12.2224344

Arslan, A. N., Hempelmann, C. F., Attardo, Blount, G. P., S., Sirakova, N. N., and Sirakov, N. M. (2015). Identification of Partially Occluded Firearms Through Partonomy. SPIE 2015

Hempelmann, C. F., Arslan, A. N. Attardo, S. Blount, G. P., and Sirakov, N. M. (2014). Assessing the Threat of Firearms: New Threat Formula, Resources, and Ontological Linking Algorithms. In: Kadar, Ivan. Ed. Signal Processing, Sensor/Information Fusion, and Target Recognition XXIII. Proceedings of SPIE Vol. 9091. Bellingham, WA: SPIE. 90910U1-12. doi: 10.1117/12.2050814.

Sakoglu, U., Arslan, A. N., Bohra, K., Flores, H. (2013). In Search of Optimal Space-Filling Curves for 3-D to 1-D Mapping: Application to 3-D Brain MRI Data. In Proc. of the 6th International Conference on Bioinformatics and Computational Biology (BICoB), March 24 - 26, 2014 Las Vegas, Nevada.

Arslan, A. N., Hempelmann, C. F., Di Ferrante, C., Attardo, S., Sirakov, N. M. (2013). From Shape to Threat: Exploiting the Convergence Between Visual and Conceptual Organization for Weapon Identification and Threat Assessment. In: Sadjadi, Firooz A. and Abhijit Mahalanobis. Eds. Automatic Target Recognition XXIII. Proceedings of SPIE 0277-768X, V. 8744. Bellingham, WA: SPIE. 87440P. pp. 1-15. doi:10.1117/12.2015591 (Winner of Lockheed Martin Best Paper Award)

Arslan A. N., Sirakov, N. M., and Attardo, S. (2012) Weapon Ontology Annotation Using Boundary Describing Sequences. In Proceedings of the 2012 IEEE Southwest Symposium on Image Analysis and Interpretation, April 22-24, 2012, Santa Fe, New Mexico

Arslan, A. N. and Chidri, Arvind (2011) A clustering-based matrix multiplication algorithm. In Proceedings of International Conference on Scientific Computing (CSC 2011), pp. 303-307 (acceptance rate: 22%)

Arslan, A. N. and Chidri, Arvind (2010) An efficient multiplication algorithm for thin matrices and for matrices with similar rows and columns. In Proceedings of International Conference on Scientific Computing (CSC 2010), pp. 147-152 (acceptance rate: 25%)
Arslan, A. N (2010) Heuristic algorithms for local sequence alignment with inversions and reversals. The 15th Anniversary Celebration, Transformative Systems Conference, SDPS 2010, Dallas, TX, June 6-11, 2010

Arslan, A. N. (2010) A fast longest common subsequence algorithm for similar strings. The 4th International Conference on Language and Automata Theory and Applications (LATA 2010), Trier, Germany, May 24-28, 2010, Lecture Notes in Computer Science 6031, pp. 82-93 (acceptance rate: 41%)

Arslan, A. N. (2007) Sequence alignment guided by common motifs described by context free grammars (The 4th Biotechnology and Bioinformatics Symposium (BIOT) 2007), October 19-20, Colorado Springs, CO

Arslan, A. N. and Bizargity, P. (2007) Phylogeny by top down clustering using a given multiple alignment. The Proceedings of the 7th IEEE Symposium on Bioinformatics and Biotechnology (BIBE 2007), Vol. II, pp. 809-814, Harvard Medical School, Boston, Massachusetts, October 14-17, 2007

He, D., Arslan, A. N., He, Y. and Wu, X. (2007) Iterative refinement of repeat sequence specification using constrained pattern matching. The Proceedings of the 7th IEEE Symposium on Bioinformatics and Biotechnology (BIBE 2007), Vol. II, pp. 1199- 1203, Harvard Medical School, Boston, Massachusetts, October 14-17, 2007

Arslan, A. N. (2007) A largest common d-dimensional subsequence of two d-dimensional strings. The 16th International Symposium on Fundamentals of Computation Theory (FCT 2007), Budapest, Hungary, August 2007, Lecture Notes in Computer Science (LNCS) 4639, Erzsebet Csuhaj-Varju, Zoltan Esik (Eds.), Springer, pp. 40-51

He, Y., Wu, X., Zhu, X. and Arslan, A. N. (2007) Mining Frequent Patterns with Wildcards from Biological Sequences. Proc. of the IEEE International Conference on Information Reuse and Integration (IEEE IRI-07), pp. 329-334, Las Vegas, August 13-15, 2007

Arslan, A. N. (2006) An algorithm with linear expected running time for string editing with substitutions and substring reversals. The Proceedings of the Biotechnology and Bioinformatics Symposium (BIOT-2006), pp. 90-96, Provo, Utah, October 20-21, 2006

Arslan, A. N. and He, D. (2006) An improved algorithm for the regular expression constrained multiple sequence alignment problem. The Proceedings of the 6th IEEE Symposium on Bioinformatics and Biotechnology (BIBE 2006), pp. 121-126, Washington, DC, October 16-18, 2006

Arslan, A. N. (2006) An algorithm for string edit distance allowing substring reversals. The Proceedings of the 6th IEEE Symposium on Bioinformatics and Biotechnology (BIBE 2006), pp. 220-226, Washington, DC, October 16-18, 2006

He, D. and Arslan, A. N. (2006) FastPCMSA: An Improved Parallel Algorithm for the constrained multiple sequence alignment problem. FCS'06 - The 2006 International Conference on Foundations of Computer Science, pp. 88-94, Monte Carlo Resort, Las Vegas, Nevada, June 26-29, 2006

He, D. and Arslan, A. N. (2006) Space-efficient algorithms for the constrained multiple sequence alignment problem. BIOCAMP'06- The 2006 International Conference on Bioinformatics & Computational Biology, pp. 10-16, Monte Carlo Resort, Las Vegas, Nevada, June 26-29, 2006

He, D. and Arslan, A. N. (2006) A* algorithms for the constrained multiple sequence alignment problem. ICAI'06 - The 2006 International Conference on Artificial Intelligence, pp. 465-479, Las Vegas, Nevada, June 26-29, 2006

Zheleva, E. and Arslan, A. N. (2006) Fast motif search in protein sequence databases. International Computer Science Symposium in Russia (CSR 2006), Lecture Notes in Computer Science 3967, pp. 670-681, St.Petersburg, Russia, June 8-12, 2006

Arslan, A. N. (2006) Efficient approximate dictionary look-up for long words over small alphabets. Lecture Notes in Computer Science 3887, pp. 118-129, Latin American Theoretical Informatics LATIN'06, Valdivia, Chile, March 20-24, 2006

Singh, D. R. , Arslan, A. N, and Wu, X. (2006) Using an extended suffix tree to speed-up sequence alignment. IADIS International Conference on Applied Computing, pp. 655-660, San Sebastian, Spain, February 25-28, 2006

Arslan, A. N. (2005) Multiple sequence alignment containing a sequence of regular expressions, Proc. IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology (CIBCB'05), pp. 230-236, La Jolla, November 14-15, 2005

He, Dan and Arslan, A. N. (2005) A parallel algorithm for the constrained multiple sequence alignment problem, Proc. IEEE the 5th Symposium on Bioinformatics and Biotechnology (BIBE'05), pp. 258-262, Minneapolis, Minnesota, October 19-21, 2005

Arslan, A. N. (2005) Regular expression constrained sequence alignment, Lecture Notes in Computer Science 3537, pp. 322-333, Combinatorial Pattern Matching (CPM), Jeju Island, Korea, June 19-22, 2005

He, Dan and Arslan, A. N. (2005) A fast algorithm for the constrained multiple sequence problem. Proceedings. 11th International Conference on Automata and Formal Languages (AFL 2005), Zoltan Esik, Zoltan Fulop (Eds.) Institute of Informatics, University of Szeged, pp. 131-143, Dobogoko, Hungary, May 17-20, 2005

Arslan, A. N. and Egecioglu, O. (2004) Algorithms for the constrained longest common subsequence problems, Proceedings of the Prague Stringology Conference 2004, pp. 24- 32, Edited by Milan Simanec and Jan Holub, Prague, Czech Republic, August 30-September 1, 2004

Arslan, A. N. and Egecioglu, O. (2002) Efficient computation of long similar subsequences. Lecture Notes in Computer Science 2476:77-90, String Processing and

Information Retrieval, 9th International Symposium (SPIRE 2002), Lisbon, Portugal, September 11-13, 2002

Arslan, A. N. and Egecioglu, O. (2002) Dictionary look-up within small edit distance. Lecture Notes in Computer Science 2387:127- 136, 8th Annual International Computing and Combinatorics Conference (COCOON), Singapore, August 15-17, 2002

Arslan, A. N. and Egecioglu, O. (2002) Algorithms For Local Alignment With Length Constraints Proc. 5th Latin American Theoretical Informatics Symposium (LATIN 2002), LNCS 2286, pp. 38-51, Cancun, Mexico, April 2002

Arslan, A. N. and Egecioglu, O. (2001) An improved upper bound on the size of planar convex-hulls. Lecture Notes in Computer Science 2108:111-120, COCOON, Guilin, China, August 20-23, 2001

Arslan, A. N. and Egecioglu, O. and Pevzner, P.A. (2001) A new approach to sequence alignment: normalized sequence alignment. The Fifth Annual International Conference on Computational Molecular Biology (RECOMB 2001), pp. 2-11, Montreal, Canada,, April 22-25, 2001

Arslan, A. N. and Egecioglu, O. (1999) An efficient uniform-cost normalized edit distance algorithm. IEEE Computer Society 6th International Symposium on String Processing and Information Retrieval (SPIRE 1999), pp. 8-15, Cancun, Mexico, September 22-24, 1999

PEER-REVIEWED BOOK CHAPTERS

Arslan, A. N. and Egecioglu, O. (2018) Chapter 29. Dynamic and fractional programming approximation algorithms for local alignment with constraints. Handbook of Approximation Algorithms and Metaheuristics, Edited by: Teofilo F. Gonzalez, Chapman & Hall/CRC in the Computer & Information Science Series.

Arslan, A. N. (2008) Guided Sequence Alignment. Encyclopedia of Data Warehousing and Mining - 2nd Edition, Edited by John Wang, Professor, Department of Management & Information Science, Montclair State University, IGI Global (Formerly "Idea Group Inc."), Hershey, PA, USA, August 2008, pp. 964-969, ISBN: 978-1-60566-010-3

Arslan, A. N. and Egecioglu, O. (2007) Chapter 76. Dynamic and fractional programming approximation algorithms for local alignment with constraints. Handbook of Approximation Algorithms and Metaheuristics, Edited by: Teofilo F. Gonzalez, Chapman & Hall/CRC in the Computer & Information Science Series, Volume 13, ISBN: 9781584885504

OTHER PUBLICATIONS

N. M. Sirakov, A. N. Arslan, C. F. Hempelmann, S. Attardo and G. P. Blount (2015), SPIE Newsroom Article, Firearms identification through partonomy, DOI: 10.1117/2.1201507.005849, URL: <http://spie.org/x115013.xml>.

J. Zhang, G. Li, J. Y. Yang Editors, and A. Arslan et al. Associate Editors. (2009) The Proceeding of the international conferences on bioinformatics, systems biology, and intelligent computing. IEEE Computer Society, ISBN 978-0-7695-3739-9

A. N. Arslan and J. Nowak. Efficient approximate dictionary look-up for words over small alphabets. Technical Report TUM-I0708, Technische Universität München, Institut für Informatik, January 2007 (<http://mediatum.ub.tum.de/node?id=1094596>)

Arslan, A. N. (2004) Algorithmic methods in bioinformatics, Biyoformatik-II (Bioinformatics Graduate Summer School II, Sile/Turkey), pp. 1-11, August,2004 (Editors: Azmi Telefoncu, Fikrettin Sahin, Ali Kilinc), ISBN=975-483-637-X

Arslan, A. N. (2004) Sequence alignment, Biyoformatik-II (Bioinformatics Graduate Summer School II, Sile/Turkey), pp. 101-114, August,2004 (Editors: Azmi Telefoncu, Fikrettin Sahin, Ali Kilinc), ISBN=975-483-637-X

Arslan, A. N. (2002) Algorithms for string similarity with constraints. Ph.D. Thesis at University of California, Santa Barbara. Published by UMI, Ann Arbor

Kandhare, P., Arslan, A. N., Sirakov, N. M. (2014). Tracking Partially Occluded Objects with Centripetal Active Contour, International Workshop on Combinatorial Image Processing (IWCIAP) 2014, Bruno, Czech Republic, May 2014 (presented by Dr. Nikolay M. Sirakov)

PAPERS UNDER PREPARATION

Arslan, A. N. Rigid Object Detection in 2D Images Based-on Discernible Components.

Arslan, A. N. Parallel Algorithms for 3Sum Problem.

RESEARCH GRANTS AND AWARDS

2020-2021, Expanding RNA Dataset for Fast Secondary Structure Comparisons (with Dr. Mete), Presidential GAR Initiative, Texas A&M University-Commerce, \$15,000

2015-2018, Efficient Search, Comparison, and Annotation for Biological Sequences, Sole PI, NSF Award No: IIS-1528027, \$76,756 (Developed a software tool for RNA structure search and comparison with a group of undergraduate and graduate students)

2015, Supervised a student research that won the 2nd place in Computer Science in the 12th Annual Pathways Student Research Symposium in October 2015, Corpus Christi

2013, SPIE Conference Best Paper Award, "From Shape to Threat: Exploiting the Convergence Between Visual and Conceptual Organization for Weapon Identification and Threat Assessment" (by Arslan, Hempelmann, Di Ferrante, Attardo, Sirakov), Lockheed Martin

2010-2011, Texas A & M System Teaching Excellence Award

2005-2008, Pattern Matching with Wildcards and Length Constraints, Co-PI, NSF Award No. CCF-0514819, \$200,000

SERVICE TO CS DEPARTMENTS/SCHOOLS

Led initiation of AI, Cybersecurity, and Data Science undergraduate tracks; and participated in initiation of MS in AI program.

Formed a strong Industry Advisory Board from technology leaders.

Taught over 3,000 students, and over 1,000 undergraduate students in 4 universities.

Served on many committees such as curriculum, MS/PhD Comprehensive Exams, admissions, and scholarships (reviewed many thousands of transcripts and scholarship applications), ABET assessment, appeals/grievances.

Served as a Department Faculty Senator, webmaster, library liaison.

Served on University Assessment Committee, search committees for faculty, and Dean.

Served as External Reviewer for Tenure and Promotions for several universities.

Served on Academic Department Head Council, College of Science and Engineering Executive Council, and Hearing Committee

SERVICE TO MY PROFESSION AT LARGE

Served as a guest editor for Dynamic Programming of Mathematics Journal (MDPI), on the Editorial Board of The International Journal of Data Mining, Modelling and Management (Inderscience) since 2008

Served on the Program Committee of more than 30 international conferences (e.g., ICBBS 2022-2019, BICOB 2020-2018)

Reviewed several hundred articles for many conferences and journals (e.g., IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), Algorithmica, IEEE/ACM Transactions on Computational Biology and Bioinformatics (TCBBSI),

Bioinformatics, Theoretical Computer Science (TCS), IEEE Transactions on Knowledge Engineering (TKDE))

SOME OF MY UNPUBLISHED TECHNICAL ACHIEVEMENTS

Digit-by-digit calculation of square root: Wikipedia lists several methods for calculating square root. One of them is the digit-by-digit calculation method. The origin of this method is not exactly known. I independently discovered this method at the age of ten.

Authoring Tool: During my junior and senior years of my undergraduate study, working with a classmate/close friend, we fully developed from scratch an authoring tool for a company. I designed a language, interpreter, text editor, image editor (with many features including animation), complex calculator with graphical plotting features. Users (high school teachers) prepared the content by which the events history (including animations) could be generated, saved, and (re)run. High school course materials in math and science courses were created and used in Turkey by this company using our tool.

REFERENCES

Available upon request.