

CURRICULUM VITAE OF VAROL AKMAN

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SNAIL MAIL

Anadolu Bahcesehir Sitesi, Ada 88, No 16, Koparan Mahallesi, Golbasi, Ankara 06830, Turkey

DEGREES

- BS (1979): Electrical Eng, Middle East Technical University (METU), Ankara
- MS (1980): Computer Eng, METU
 - Thesis title: *Design and implementation of the front-end and controller hardware/software systems for the RAP database machine*
 - Advisor: Esen A. Ozkarahan (deceased)
- PhD (1985): Electrical, Computer & Systems Eng, Rensselaer Polytechnic Institute
 - Thesis title: *Shortest paths avoiding polyhedral obstacles in 3-dimensional Euclidean space*
 - Advisor: Wm. Randolph Franklin

POSITIONS

In the Netherlands

- Vis Asst Prof, Departement Informatica, Universiteit Utrecht (1985-86)
- Senior Researcher, Centrum Wiskunde & Informatica, Amsterdam (1986-88)

At Bilkent University, Ankara, Turkey

- Asst Prof, Computer Eng (1988-90)
- Assoc Prof, Computer Eng (1990-95)
- Prof (joint appt), Philosophy (2002-15)
- Prof, Computer Eng (1995-24), now retired

AWARDS AND RECOGNITIONS

- Fulbright scholarship to study in the US (1980-85)
- Young Scientist award, The Scientific & Technological Research Council of Turkey (1989)
- Young Investigator award, METU Mustafa N. Parlar Education & Research Foundation (1990)
- Fellow, World Innovation Foundation (2002-)
- Member of Editorial Board, *First Monday*, <http://firstmonday.org> (2002-)
- Associate Editor, *Law, Ethics & Technology*, <https://www.elspub.com/journals/law-ethics-technology> (2023-)

RESEARCH

My current research is two-pronged: (i) contextual reasoning in AI & (ii) public implications of the Internet:

- (i) Problems originating from NLP, especially those caused by the lack of explicit context:
When we say a particular thing, we do so in a context. Thus, there are embedded background assumptions available only through the context. We are also good at shifting between contexts. Can

context be formalized in a logical framework? (My grad course CS 578 examined contexts, as well as deep learning for natural language.)

- (ii) Problems caused by tensions between individual v corporate and democratic v authoritarian: Internet as a socio-political medium. Free access to information in the networked world. The Internet as a trusted communications medium. Censorship and politics of the Internet. Social movements in the 21st century marked by rapid broadcast of ideas and images. Twitter as a political space. (My grad course CS 513 treated such societal aspects of the Internet.)

TEACHING (RECENT YEARS)

Undergrad

- CS 461 Artificial Intelligence
- PHIL 101 Introduction to Logic

Grad

- CS 513 Implications of the Internet
- CS 578 Natural Language Processing

ADMINISTRATIVE WORK

- Founding Chair, Philosophy Dept (2002-15)
- Member of Faculty Executive Board, Humanities & Letters (2003-15)
- Member of University Executive Board (2011-15)
- Member of University Senate (2012-13 and 2014-15)
- Acting Dean, Faculty of Humanities & Letters (2012-13 and 2014-15)

PUBLICATIONS

[Selective coverage; [ublications currently listed in *Web of Science Core Collection* are highlighted]

Monograph

1. V Akman, *Unobstructed Shortest Paths in Polyhedral Environments*, Lecture Notes in Computer Science, Vol 251, Springer-Verlag (1987)

Edited Volumes

1. V Akman, PJW ten Hagen, P Veerkamp, eds, *Intelligent CAD Systems II*, Springer-Verlag (1989)
2. V Akman, P Bouquet, R Thomason, RA Young, eds, *Modeling and Using Context*, Lecture Notes in Artificial Intelligence, Vol 2116, Springer-Verlag (2001)

Journal Articles

1. V Akman, Solution of problem 82-5 (proposed by J Stolfi and L Guibas), *J Algorithms* 3(2): 184-187 (1983)
2. WR Franklin, V Akman, C Verrilli, Voronoi diagrams with barriers and on polyhedra for minimal path planning, *Visual Computer* 1(2): 133-150 (1985)
3. WR Franklin, V Akman, Building an octree from a set of parallelepipeds, *IEEE Computer Graphics & Applications* 5(10): 58-64 (1985)
4. WR Franklin, V Akman, Reconstructing visible regions from visible segments, *BIT* 26(4): 430-441 (1986)
5. V Akman, Writing self-replicating code, *Computer J* 29(6): 573-574 (1986)
6. V Akman, WR Franklin, On the question "Is $\sum_{i=1}^n \sqrt{a_i} \leq L$?" *EATCS Bulletin* 28: 16-20 (1986)
7. V Akman, An algorithm for determining an opaque minimal forest of a convex polygon, *Information Processing Letters* 24(3): 193-198 (1987)
8. WR Franklin, V Akman, A simple and efficient haloed line algorithm for hidden line elimination, *Computer Graphics Forum* 6(2): 103-109 (1987)
9. WR Franklin, V Akman, Adaptive grid for polyhedral visibility in object space - an implementation, *Computer J* 31(1): 56-60 (1988)
10. V Akman, PJW ten Hagen, J LH Rogier, P Veerkamp, Knowledge engineering in design, *Knowledge-Based Systems* 1(2): 67-77 (1988)

11. V Akman, WR Franklin, Representing objects as rays, or how to pile up an octree, *Computers & Graphics* 13(3): 373-379 (1989)
12. V Akman, PJW ten Hagen, The power of physical representations, *AI Mag* 10(3): 49-65 (1989)
13. V Akman, WR Franklin, M Kankanhalli, C Narayanaswami, Geometric computing and uniform grid technique, *Computer-Aided Design* 21(7): 410-420 (1989)
14. V Akman, WR Franklin, Ray representation for k-trees, *Pattern Recognition Letters* 10(5): 315-320 (1989)
15. V Akman, PJW ten Hagen, T Tomiyama, A fundamental and theoretical framework for an intelligent CAD system, *Computer-Aided Design* 22(6): 352-367 (1990)
16. V Akman, Implementation of Karp-Luby Monte-Carlo method - an exercise in approximate counting, *Computer J* 34(3): 279-282 (1991)
17. HA Guvenir, V Akman, Problem representation for refinement, *Minds & Machines* 2(3): 267-282 (1992)
18. V Akman, A Arslan, Sweeping with all graphical ingredients in a topological picturebook, *Computers & Graphics* 16(3): 273-281 (1992)
19. E Tin, V Akman, Computing with causal theories, *Intl J Pattern Recognition & Artificial Intelligence* 6(4): 699-730 (1992)
20. M Marhl, V Akman, On the correct determination of rotational angles for twisted-profiled sweep objects, *Computers & Graphics* 18(5): 691-694 (1994)
21. M Pakkan, V Akman, Issues in commonsense set-theory, *Artificial Intelligence Rev* 8(4): 279-308 (1994)
22. V Akman, Ripping the text apart at different seams, *Stanford Humanities Rev* 4(1): 31-34 (1994)
23. V Akman, When silence may mean derision, *J Pragmatics* 22(2): 211-212 (1994)
24. E Tin, V Akman, Computational situation theory, *ACM SIGART Bull* 5(4): 4-17 (1994)
25. E Tin, V Akman, M Ersan, Towards situation-oriented programming languages, *ACM SIGPLAN Notices* 30(1): 27-36 (1995)
26. M Ersan, V Akman, Situated modeling of epistemic puzzles, *Bull IGPL* 3(1): 51-76 (1995)
27. M Pakkan, V Akman, HYPERSOLVER - a graphical tool for commonsense set-theory, *Information Sciences* 85(1-3): 43-61 (1995)
28. B Say, V Akman, Current approaches to punctuation in computational linguistics, *Computers & Humanities* 30(6): 457-469 (1996)
29. V Akman, M Ersan, Commonsense aspects of buying and selling, *Cybernetics & Systems* 27(4): 327-352 (1996)
30. V Akman, M Surav, Steps toward formalizing context, *AI Mag* 17(3): 55-72 (1996)
31. E Tin, V Akman, Situated nonmonotonic temporal reasoning with BABY-SIT, *AI Communications* 10(2): 93-109 (1997)
32. V Akman, M Surav, The use of situation theory in context modeling, *Computational Intelligence* 13(3): 427-438 (1997)
33. M Bayraktar, B Say, V Akman, An analysis of English punctuation: the special case of comma, *Intl J Corpus Linguistics* 3(1): 33-57 (1998)
34. V Akman, Situations and artificial intelligence, *Minds & Machines* 8(4): 475-477 (1998)
35. V Akman, Relating to Ken Kesey's wise man, *J Pragmatics* 32(4): 485-489 (2000)
36. V Akman, Rethinking context as a social construct, *J Pragmatics* 32(6): 743-759 (2000)
37. V Akman, Introduction to the special issue on philosophical foundations of artificial intelligence, *J Experimental & Theoretical Artificial Intelligence* 12(3): 247-250 (2000)
38. V Akman, P Blackburn, Editorial: Alan Turing and artificial intelligence, *J Logic, Language & Information* 9(4): 391-395 (2000)
39. AP Saygin, I Cicekli, V Akman, Turing test: 50 years later, *Minds & Machines* 10(4): 463-518 (2000)
40. AB Sevdik, V Akman, Internet in the lives of Turkish women, *First Monday* 7(3) (2002)
41. K Altintas, T Aydin, V Akman, Censoring the Internet: the situation in Turkey, *First Monday* 7(6) (2002)
42. B Edmonds, V Akman, Editorial: context in context, *Foundations of Science* 7(3): 233-238 (2002)
43. A Fetzer, V Akman, Contexts of social action: guest editors' introduction, *Language & Communication* 22(4): 391-402 (2002)
44. V Akman, C Bazzanella, The complexity of context: guest editors' introduction, *J Pragmatics* 35(3): 321-329 (2003)

45. V Akman, S Erdogan, J Lee, V Lifschitz, H Turner, Representing the Zoo World and the Traffic World in the language of the Causal Calculator, *Artificial Intelligence* 153(1-2): 105-140 (2004)
46. V Akman, On Strawsonian contexts, *Pragmatics & Cognition* 13(2): 363-382 (2005)
47. V Akman, Relational priming: obligational nitpicking, *Behavioral & Brain Sciences* 31(4): 378-379 (2008)
48. V Akman, The war against mediocrity and cliché, *Philosophers' Mag* 44: 42-44 (2009)
49. V Akman, MB Senol, The truth about "it is true that...", *Pragmatics & Cognition* 23(2): 284-299 (2016)
50. V Akman, Burn all your textbooks, *Australasian J Logic* 14(3) (2017)
51. V Akman, MS Yenimol, Following Hillary Clinton and Donald Trump: a dissection of their tweets in the 2016 US presidential election, *First Monday* 28(2) (2023)
52. V Akman, Reading Law with ChatGPT (with special emphasis on Contextual Canons), *Law, Ethics & Technology* (3): 06 (2024)

Book Chapters

1. WR Franklin, V Akman, Shortest paths in 3-space, Voronoi diagrams with barriers, and related complexity and algebraic issues, in *Fundamental Algorithms for Computer Graphics*, RA Earnshaw, ed, 895-917, Springer-Verlag (1985)
2. WR Franklin, V Akman, Octree data structures and creation by stacking, in *Computer-Generated Images*, N Magnenat-Thalmann, D Thalmann, eds, 176-185, Springer-Verlag (1985)
3. B Veth¹, An integrated data description language for coding design knowledge, in *Intelligent CAD Systems I*, PJW ten Hagen, T Tomiyama, eds, 295-313, Springer-Verlag (1987)
4. V Akman, Geometry and graphics applied to robotics, in *Theoretical Foundations of Computer Graphics & CAD*, RA Earnshaw, ed, 619-638, Springer-Verlag (1988)
5. WR Franklin, C Narayanaswami, M Kankanhalli, M Seshan, V Akman, Efficiency of uniform grids for intersection detection on serial and parallel machines, in *New Trends in Computer Graphics*, N Magnenat-Thalmann, D Thalmann, eds, 288-297, Springer-Verlag (1988)
6. AAM Kuijk, PJW ten Hagen, V Akman, An exact incremental hidden surface removal algorithm, in *Advances in Computer Graphics Hardware II*, AAM Kuijk, W Strasser, eds, 21-37, Springer-Verlag (1988)
7. V Akman, PJW ten Hagen, AAM Kuijk, A vector-like architecture for raster graphics, in *Advances in Computer Graphics Hardware II*, AAM Kuijk, W Strasser, eds, 137-154, Springer-Verlag (1988)
8. WR Franklin, C Narayanaswami, M Kankanhalli, V Akman, PYF Wu, Efficient geometric algorithms for CAD, in *Geometric Modeling for Product Engineering*, MJ Wozny, JU Turner, K Preiss, eds, 485-498, North-Holland (1990)
9. V Akman, E Tin, What is in a context, in *Communication, Control & Signal Processing*, vol 2, E Arıkan, ed, 1670-1676, Elsevier (1990)
10. V Akman, D Ede, WR Franklin, PJW ten Hagen, Mental models of force and motion, in *Intelligent Motion Control*, vol 1, O Kaynak, ed, 153-158, IEEE Press (1990)
11. V Akman, Heterogeneous inference in design, in *Computers in Engineering*, vol 4, MM Tanik, A Dogac, A Lehmann, AE Harmanci, eds, 143-150, ASME Press (1992)
12. V Akman, PJW ten Hagen, T Tomiyama, Desirable functionalities of intelligent CAD systems, in *Intelligent Systems in Design & Manufacturing*, CH Dağlı, A Kusiak, eds, 119-138, ASME Press (1994)
13. E Tin, V Akman, BABY-SIT - towards a situation-theoretic computational environment, in *Current Issues in Mathematical Linguistics*, C Martin-Vide, ed, 299-308, North-Holland (1994)
14. E Tin, V Akman, Information-oriented computation with BABY-SIT, in *Logic, Language and Computation 1*, J Seligman, D Westerstahl, eds, 19-34, CSLI Lecture Notes, Vol 58 (1996)
15. V Akman, Notions and oracles, in *The Role of Pragmatics in Contemporary Philosophy*, vol 1, P Weingartner, G Schurz, G Dorn, eds, 3-9, Austrian Ludwig Wittgenstein Society (1997)
16. B Say, V Akman, An information-based treatment of punctuation in discourse representation theory, in *Mathematical & Computational Analysis of Natural Language*, C Martin-Vide, ed, 359-373, John Benjamins (1998)

¹ Bart Veth is an obsolete pseudonym denoting (in alphabetical order): V Akman, P Bernus, PJW ten Hagen, JLH Rogier, T Tomiyama, PJ Veerkamp

17. NA Sisman, FN Alpaslan, V Akman, A neuro-fuzzy MAR algorithm for temporal rule-based systems, *Proc Joint Meeting of 3rd World Multiconf on Systemics, Cybernetics & Informatics (SCI'99) and 5th Int Conf on Information Systems Analysis & Synthesis (ISAS'99)*, vol 8, M Torres, B Sanchez, B Wills, eds, 87-92, Int Institute of Informatics & Systemics, Orlando (1999)
18. V Akman, Contesti in intelligenza artificiale: una fugace rassegna, in *La Svolta Contestuale*, C Penco, ed, 147-166, McGraw-Hill, Milano (2002)
19. AP Saygin, I Cicekli, V Akman, Turing test: 50 years later, in *The Turing Test: The Elusive Standard of Artificial Intelligence*, JH Moor, ed, 23-78, Kluwer Academic (2003)
20. Sabuncu, FN Alpaslan, V Akman, Using criticalities as a heuristic for answer set programming, in *Logic Programming and Nonmonotonic Reasoning*, V Lifschitz, I Niemela, eds, 234-246, Lecture Notes in Artificial Intelligence, Vol 2923, Springer-Verlag (2004)
21. T Yilmaz, U Gudukbay, V Akman, Modeling and visualization of complex geometric environments, in *Geometric Modeling*, M Sarfraz, ed, 4-30, Kluwer Academic (2004)
22. V Akman, Situation semantics, in *Encyclopedia of Language & Linguistics (2nd edn)*, K Brown, ed, 398-401, Elsevier (2006)
23. V Akman, Identity; Logical connectives; Vagueness (3 articles), in *Continuum Encyclopedia of British Philosophy*, A Grayling, A Pyle, N Goulder, eds, 1610-1611, 1939-1940, 3260-3261, Thoemmes Continuum (2006)
24. V Akman, Similar situations, in *Context and Appropriateness*, A Fetzer, ed, 31-54, John Benjamins (2007)
25. V Akman, On a proposal of Strawson concerning context vs 'what is said,' in *Perspectives on Contexts*, P Bouquet, L Serafini, RH Thomason, eds, 79-94, CSLI Lecture Notes, Vol 180 (2008)
26. V Akman, Situated semantics, in *The Cambridge Handbook of Situated Cognition*, P Robbins, M Aydede, eds, 401-418, Cambridge University Press (2009)
27. V Akman, Situational semantics, in *Key Ideas in Linguistics and the Philosophy of Language*, S Chapman, C Routledge, eds, 209-212, Edinburgh University Press (2009)
28. E Sahin, V Akman, Analogy-making in situation theory, in *Artificial Intelligence*, RB Bernstein, WN Curtis, eds, 299-321, Nova Science Publishers (2009)

Book Reviews

1. PH Winston, RH Brown, eds, *Artificial Intelligence*; review in *ACM SIGART News*: 24-27 (1985)
2. GL Steele, Jr, DR Woods, RA Finkel, MR Crispin, RM Stallman, GS Goodfellow, *The Hacker's Dictionary*; review in *IEEE Software* 2: 110 (1985)
3. K Mehlorn, *Data Structures and Algorithms* 3; review in *ACM Computing Revs* 26: 210-211 (1985)
4. R Sedgewick, *Algorithms*; review in *IEEE Software* 2: 104 (Nov 1985)
5. JU Korein, *A Geometric Investigation of Reach*; review in *ACM Computing Revs* 28: 191 (1987)
6. JR Woodwark, ed, *Geometric Reasoning*; review in *Computer-Aided Design* 22(10): 675-676 (1990)
7. GA Agha, *ACTORS*; review in *AI Mag* 11(4): 92-93 (1990)
8. B D'Ambrosio, *Qualitative Process Theory Using Linguistic Variables*; review in *ACM SIGART Bull* 2(2): 25-27 (1991)
9. PD Mosses, *Action Semantics*; review in *J Logic & Computation* 3(4): 442-444 (1993)
10. A Nerode, RA Shore, *Logic for Applications*; review in *ACM SIGACT News* 26(1): 20-22 (1995) [w/ E Tin]
11. C Allen, M Hand, *Logic Primer*; review in *J Logic & Computation* 5(2): 251-253 (1995)
12. H Kamp, U Reyle, *From Discourse to Logic*; review in *Computational Linguistics* 21(2): 265-268 (1995)
13. V Lifschitz, ed, *Formalizing Common Sense*; review in *Artificial Intelligence* 77(2): 359-369 (1995)
14. J Lyons, *Linguistic Semantics*; review in *Natural Language Eng* 3(1): 92-95 (1997)
15. J Barwise, L Moss, *Vicious Circles*; review in *J Logic, Language & Information* 6(4): 460-464 (1997)
16. J Haugeland, ed, *Mind Design II*; review in *ACM SIGART Bull* 9(3-4): 33-36 (1998)
17. J van der Does, J van Eijck, eds, *Quantifiers, Logic & Language*; review in *Natural Language Eng* 4(4): 368-370 (1998)
18. R Cole, J Mariani, H Uszkoreit, A Zaenen, V Zue, eds, *Survey of the State of the Art in Human Language Technology*; review in *Computational Linguistics* 25(1): 161-164 (1999)
19. DV McDermott, *Mind & Mechanism*; review in *Artificial Intelligence* 151(1-2): 227-235 (2003)

Letters to Editor

1. V Akman, Computer science and the classics, *Comm ACM* 29(10): 928 (1986)
2. V Akman, Untitled, *AI Mag* 10(1): 9-12 (1989)
3. V Akman, PJW ten Hagen, Fronti nulla fides, *AI Mag* 11(1): 10-11 (1990)
4. V Akman, Protect our children, *Newsweek* 128(14): 7E (30 Sep 1996)