

David A. Ostrowski, Ph.D.

15830 Robinwood Dr.

Northville, MI 48168

Cell (248) 880-6632

davidaostrowski@gmail.com

<https://github.com/dalfredostrowski>

Education

Doctor of Philosophy

Computer Science, Wayne State University, Detroit, MI, 2002

Master of Science

Computer Science, Wayne State University, Detroit, MI, 1992

Bachelor of Business Administration

Management Information Systems, The University of Michigan-Dearborn, MI, 1987

Industrial Experience

Artificial Intelligence Leader, Ford Motor Company, Vehicle Component and System Engineering, VCSE, Business Office, Dearborn, MI 5/19- 6/22

Led Internal AI, Blockchain technology consultancy to community of worldwide 9000+ engineer community. Supported AI / Blockchain prototyping and ideation throughout worldwide product engineering community supporting Ethereum, Solana and Cardano platforms. Mentored over 40 Innovation Sprint Contest teams worldwide specializing in AI. Mentored multinational teams to assess project utility and value, provide project definitions, necessary training, recommendations and software development support as well as model construction. Developed Deep Learning algorithm for audio classification to automatically designate between braking events and non-braking events in support of an improved engineering process, for reduced testing time as well as adding objectivity to engineering analysis. Researched, constructed and prototyped Google Vision AIY Kits presenting demonstrations of facial, object and emotion recognition in support of innovation projects within the engineering community. Presented topics on Machine Learning with the Apache Spark Architecture, BlockChain leveraging the Ethereum architecture and Connected Vehicle Analytics through the application of Apache Hadoop, Hive and Spark platforms.

Ford Motor Company, Ford Research Laboratory, Dearborn, MI 10/00–5/19

Analyzed aspects of Ford Motors global business via application of Data Mining, Simulation, Evolutionary Computation and Agent-Based Modeling. Developed architecture and prototype for a service-based virtual manufacturing system allowing for plant floor work path optimization. Applied Agent-Based Modeling in order to provide insight into the sustainability of alternative fuel infrastructures. Investigated opportunities in manufacturing capacity reduction through application of Genetic Programming and Simulation. Researched area of price elasticity through the application of Agent-Based Modeling. Provided consultation to research community with regards to web-based software solutions.

Ford Motor Company, Ford Research Laboratory, Dearborn, MI 8/97–10/00

Provided software development support for data acquisition and control systems. Accomplishments include development of a custom software configuration management system, software enhancements to support diesel combustion analysis and utilization of software to support the generic development of device drivers.

Ford Motor Company, Fairlane Office Center, Dearborn, MI 1/97-8/97

Served as a project leader responsible for two software analysts in support of development of a real-time relational database for a worldwide engineering release systems (WERS) downstream customers as well as support for existing database interface. Tasks include support of existing WERS interface feeds as well as development of a migration plan to move all existing customers to upgraded system.

Ford Motor Company, Dynamometer Lab, Dearborn, MI 1/90-1/97

Coordinated software acceptance of real-time software systems for 31 dynamometer test rooms supporting engine and powertrain development. Responsible for the supervision of four programmer/analysts in order to support two real-time software systems controlling 36 test rooms. Tasks include software maintenance, system administration, system management, system upgrades as well as software enhancements to support government certification and advancements in engine testing technology. Served as a project manager in development of a combustion test data system between Dynamometer Labs, Allen Park Test Lab and Digital Equipment. Developed software enhancements for automated data acquisition control of engine testing. Implemented a system configuration strategy for engine test software.

CDI Computer Services, Ford Engineering Computer Center, Dearborn, MI 11/88-12/89

Developed and maintained database and utility software for a post-analysis engine test data system. Performed system operations training for the user community.

Geometric Results Inc., Ford Engineering Computer Center, Dearborn, MI 10/87-11/88

Developed conversion and utility software for post-processing engine test data.

American Motors Corporation, Detroit MI 9/85-12/85,5/86-9/86

Responsible for maintenance and customer support of a dealer franchise database. Performed maintenance for an engine parts authorization system

Academic/Teaching Experience

Adjunct Professor, Northwestern University, February 2022 – present
Course Developer/ Instructor in Ethereum Blockchain, Native Cloud, Full Stack Web Technologies and Analytics Engineering, Course SME for Database Technologies.

Adjunct Professor, Lawrence Technological University, September 2008 – December 2021
Supported development and implementation of on-line curriculum. Led students in independent study work in area of Distributed Database. Participated with Lawrence Technological University on a University Research Proposal project involving credit classification for improving collections

Adjunct Professor, University of Michigan Dearborn, 9/2002 - 1/2011
Developed On-line Course for Compiler Design. Served as a Technical Liaison between Ford Credit and UM-D towards a research project involving credit analysis. Internal committee member for the ABET accreditation process. Redesigned graduate Web Technology course to include SOA, XML and Python language. Redesigned courses in Object-Orientated Programming to include a strong emphasis on Software Engineering Principles. Taught ACT-SAT math course preparation.

Adjunct Professor, Oakland Community College, 1997 - 2001
Taught 14 classes, started a Linux laboratory, taught capstone Operating Systems class for 4 consecutive semesters.

Courses Taught

Graduate

Theory of Computation
Analysis of Algorithms
Data Warehousing
Distributed Database
Distributed Operating Systems
Enterprise Java
Web Server Programming
Web Technologies
Database Management Systems

Undergraduate

Programming languages
Artificial Intelligence
Operating System Architecture
C Programming Language

Object Orientated Programming with C++ Programming Language
Object Orientated Programming with Java Language
Advanced Object Orientated Programming with Java Language
Web Site Design Using Perl Scripting, Javascript and Java Programming Language
Programming C#, XNA, XBOX
Programming Visual Basic
Functional Programming (Haskell)

Recent Committee Participation

2018-2023 Co-Chair, IEEE Artificial Intelligence for Industries, AI4I
2010- 2023 Co-Chair, IEEE International Conference on Semantic Computing, ICSC
2014 Review Committee The 2nd International Conference on Complexity, Cybernetics and Informing Science and Engineering
2014 Review Committee, IEEE International Conference on Semantic Computing, ICSC 2013
2014 Review Committee, IEEE Transactions on Evolutionary Computation IEEE TEC 2014
2013 Review Committee, The Spring 7th International Conference on Knowledge Generation, Communication and Management KGCM 2013
2013 Review Committee, The Summer 3rd International Symposium on Integrating Research, Education and Problem Solving: Summer IREPS 2013
2013 Review Committee, The International Conference on Complexity, Cybernetics, and Informing Science and Engineering (CCISE 2013)
2013 Review Committee, The 4th International Multi-Conference on Complexity, Informatics and Cybernetics, IMCIC 2013
2013 Review Committee, The Seventh International Conference on Advances in Semantic Processing
2013 Review Committee, IEEE International Conference on Semantic Computing ICSC 2013
2013 Review Committee, The Ninth International Conference on Autonomic and Autonomous Systems, ICAS 2013
2012 Technical co-chair, session Chair IEEE International Conference on Internet Operating Systems ICIOS 2012
2012 IEEE ICSC Publicity Committee member
2011 IEEE ICSC Publicity Committee member
2010 IEEE ICSC Publicity Committee member
2009 IEEE Transactions on Evolutionary Computation Review Committee member
2009 IMCIC International conference on Complexity
2009 Informatics and Cybernetics review committee member
2009 IEEE ICSC Publicity Committee member
2008 WCCI review committee
2008 IDETC/CIE 2008 Review committee
2008 Committee Reviewer for IEEE Transactions on Evolutionary Computation
2008 IEEE VIS/VAST committee

Patents

Patent US20220327920A1 US, DE, CN: Data collection from fleet of vehicles

Patent US20210133292A1, US, DE, CN: Enhanced Component Dimensioning

Patent US20200191069A1 US, DE, CN: Method and System for Vehicle Stop / Start Control

Patent US20200391576A1 US, DE, CN: Automatic control of a heating element in thermal communication with a rear window of a vehicle pursuant to predictive modeling that recalibrates based on occupant manual control of the heating element

Patent US20200307384A1 US, DE, CN: Regenerative braking control system

Patent US20190176568A1 US, DE, CN: Automatic control of heating and cooling of a vehicle seating assembly pursuant to predictive modeling that recalibrates based on occupant manual control

Patent US20190256125A1 US, DE, CN: Automatic control of a heating element in a steering wheel of a vehicle pursuant to predictive modeling that recalibrates based on occupant manual control of the heating element

Patent US20200094651A1 US, DE, CN Automatic adaptive climate controls

Patent WO2019125485A1, WO, US, DE, CN Vehicle real-time performance feedback system

Publications

Book Chapters

D.Ostrowski, R.G. Reynolds, "Using Cultural Algorithms To Evolve Strategies in A Complex Agent-Based System", Knowledge Incorporation in Evolutionary Computation, *Springer Pub.*, Studies in Fuzziness and Soft Computing Series, Due May 2005

D. Ostrowski, R.G. Reynolds, "Using Software Engineering Knowledge To Drive Genetic Program Design Using Cultural Algorithms", Genetic Programming Theory and Practice, 2003, *Kluwer Pub.*, pp 63-80

Conferences/ Papers

Ostrowski, D. (2018, January). Building Linked Data Agents for Mobility Applications. In *Semantic Computing (ICSC), 2018 IEEE 12th International Conference on* (pp. 320-324). IEEE.

Ostrowski, D., & Kim, M. (2017, January). A Semantic Based Framework for the Purpose of Big Data Integration. In *Semantic Computing (ICSC), 2017 IEEE 11th International Conference on* (pp. 305-309). IEEE.

Ostrowski, D., Rychtycky, N., MacNeille, P., & Kim, M. (2016, February). Integration of big data using semantic web technologies. In *Semantic Computing (ICSC), 2016 IEEE Tenth International Conference on* (pp. 382-385). IEEE.

Ostrowski, D. A. (2015, February). An approximation of betweenness centrality for Social Networks. In *2015 IEEE International Conference on Semantic Computing (ICSC)* (pp. 489-492). IEEE.

Ostrowski, D. A. (2015, February). Using latent dirichlet allocation for topic modelling in twitter. In *2015 IEEE International Conference on Semantic Computing (ICSC)* (pp. 493-497). IEEE.

Ostrowski, D. A. (2014). Big Data: A Strategic Perspective. *International Journal of Semantic Computing*, 8(03), 319-333.

Ostrowski, D. A. (2014, June). Feature selection for twitter classification. In *Semantic Computing (ICSC), 2014 IEEE International Conference on* (pp. 267-272). IEEE.

D. Ostrowski, MapReduce Design Patterns for Social Networking Analysis, *Semantic Computing (ICSC), 2013 IEEE Seventh International Conference on*. IEEE, 2013.

D. Ostrowski, Feature Selection for Twitter Classification, *Semantic Computing (ICSC) , 2013 IEEE Seventh International Conference*, IEEE 2013.

D. Ostrowski, Semantic Computing in Social Media, *International Journal of Semantic Computing*, Vol 7. No3 (2013) -1-23, World Scientific pp 1-23

K., Jennifer, D. Ostrowski. "Semantic Computing and Business Intelligence" *International Journal of Semantic Computing* 7.01 (2013): 87-117.

D. Ostrowski, B. Graham, O. Gushikin, A Discrete Simulation Framework for Part Replenishment Optimization, *10th International Conference on Informatics in Control , Automation and Robotics*, Reykjavik, Iceland, 2013

D. Ostrowski, Identification of Trends in Consumer Behavior through Social Media" *The SUMMER 3rd International Conference on Design and Modeling In Science, Education, and*

Technology: DeMset 2013 17th World Multi-Conference on Systemics, Cybernetics and Informatics (WMSCI 2013)

D. Ostrowski. "Semantic Filtering in Social Media for Trend Modeling." *Semantic Computing (ICSC), 2013 IEEE Seventh International Conference on*. IEEE, 2013.

D. Ostrowski, "Semantic Social Network Analysis for Trend Identification", *IEEE International Conference in Semantic Computing*, 2012

D. Ostrowski, "A Scalable lightweight WebOS Application Framework", *IEEE International Conference in Artificial Intelligence*, ICIOs 2012

D. Ostrowski, "Social Network Analysis", *International Conference in Artificial Intelligence*, 2012

D. Ostrowski, "A Middleware Application Framework for IOS", *International Conference on Internet Computing*, ICOMP2012

D. Ostrowski, "Predictive Semantic Social Media Analysis", *IEEE International Conference in Semantic Computing* 2011

D. Ostrowski, "Relational Modeling In Social Media", *International Conference in Artificial Intelligence*, 2011

D. Ostrowski, "Sentiment Mining within Social Media for Topic Extraction", *IEEE International Conference on Semantic Computing*, 2010

D. Ostrowski, G. Schleis, "Applying Machine Learning Techniques for Knowledge-Based Credit Validation", *International Conference on Artificial Intelligence*, ICAI 2010

D. Ostrowski, "A Framework for the Classification of Unstructured Data", *IEEE International Conference on Semantic Computing*, 2009

D. Ostrowski, "Segmenting Models for Numerical Prediction", *IEEE Hybrid Intelligent Models and Applications*, HIMA, 2009

D. Ostrowski, G. Schleis, "New Approaches for Meta-Heuristic Frameworks: A Position Paper", *AAAI Workshop: Metareasoning: Thinking about Thinking*, AAAI-08, 2008

D. Ostrowski, "Ontology Refactoring", *IEEE International Conference on Semantic Computing*, ICSC 2008

D. Ostrowski, G. Schleis, "Enterprise Ontology Merging for the Semantic Web", *WorldComp*, 2008

D. Ostrowski, G. Schleis ,”Evolving Genetic Programs for Programs with Non-Functional Requirements ”, *International Conference for Artificial Intelligence and Pattern Recognition*, AIPR 2008

D. Ostrowski, “Meta-Analysis for Validation and Strategic Planning ”, *RuleML*,2008

D. Ostrowski, “Rule Definition for Managing Ontology Development”, *Rule ML Symposium*, Orlando, FL, October 2007

D. Ostrowski, “A Lightweight Framework for Web-Based, 3D Information Visualization Systems”, *International Conference on Enterprise Information EISWT*, July, 2007

D. Ostrowski, M. Everson, “Optimization of Common Parts Capacity Levels”, *3rd International Symposium on Management, Engineering and Informatics (MEI 2007)*.

D. Ostrowski, JAWS: A Javascript API for the Efficient Testing and Integration of Semantic Web Services, 3rd Workshop On Scripting for the Semantic Web (part of 4th European Semantic Web Conference). June 2007

D. Ostrowski, “A Web-Based 3D Gaming Style Multi-User Simulation Architecture”, *ACM/ SIGGRAPH WEB3D 2007 12TH International Conference on 3D Web Technology*, Perugia, Italy, April 2007

D. Ostrowski, “Semantic E-Workcell”, Ford Motor Research Technical Report, 2006

D. Ostrowski, "Experiments in Docking", *North American Association for Computational Social and Organizational Science*, Notre Dame, IN, June 22-23, 2006

D. Ostrowski, "Verification of an Agent-Based Model", *North American Association for Computational Social and Organizational Science*, Notre Dame, IN, June 26-28, 2005.

D. Ostrowski, "An ABM Approach for the development of an Alternative Fuel Infrastructure", *Geocomputation 2005*, Ann Arbor, MI 2005

M. Everson, J.Grabis, C. Chandra, D. Ostrowski, "The Overall Enterprise Value of Flexible Manufacturing Systems", *International Federation of Operational Research Societies*, Honolulu, HW, July 11-15, 2005.

M.P. Everson, C. Mangin, C. Stumpo, J.M. Schwartz, D.A. Ostrowski, Evaluating strategies for foreign exchange risk reduction Evolutionary Computation, 2002. Proceedings of the 2002 Congress on Evolutionary Computation, May 2002

D. Ostrowski, R.G. Reynolds, "Using Cultural Algorithms to Evolve Strategies for Recessionary Markets",. *CEC2004*, Portland, OR, 2004

D. Ostrowski, M. Everson, "Optimization of Common Parts Capacity", *Working internal document – proprietary*, Ford Motor Scientific Research Laboratory, 2004

Rychtyckyj, N. Ostrowski, D., Reynolds, R. (2003), "Using Cultural Algorithms in Industry", *Proceedings of the IEEE Swarm Intelligence Symposium*, Indianapolis, IN, April 24-26, 2003, pp. 187-192

T. Tassier, M. Everson, D. Ostrowski, "Agent-Based Models as a Complement to Economic Theory: A Durable Goods Example", *WCCI 2002*, 2002, pp 729-735

D. Ostrowski, T. Tassier, M. Everson, R. G. Reynolds, "Using Cultural Algorithms to Evolve Strategies in Agent -Based Models", *WCCI2002*, 2002, pp. 741-748

D. Ostrowski, "Using Cultural Algorithms to Evolve Strategies in Agent-Based Models", Phd. Thesis, *Wayne State University*, 2002

D. Ostrowski, R.G. Reynolds, "Integration of Slicing Methods into a Cultural Algorithm in Order to assist in Large-Scale Engineering Systems Design", Porto, *Saravan*, 1998

D. Ostrowski, R.G. Reynolds, "Knowledge-Based Software Testing Agent Using Evolutionary Learning with Cultural Algorithms", Angeline Peter, *CEC99*, 1999

D. Ostrowski, J.R. Miteff, "Beating Greedy: Using Culture to Solve a Job Sequencing Problem", *SCI/ISAS 99*, 1999

D. Ostrowski, "A Blackboard-based system to support Knowledge-Based Language Translation", MS Thesis, *Wayne State University*, 1992

Invited Presentations

D. Ostrowski, "Semantic Blockchain", IEEE ICSC, Workshop and Tutorial on Blockchain technology Workshop organizer / presenter, Feb 2023

D. Ostrowski, "Hands on tutorial of Blockchain Technologies", IEEE AI4I Workshop and Tutorial on Blockchain technology Workshop organizer / presenter, Sept 2022

D. Ostrowski, Opportunities and Challenges in the Integration of Blockchain Technologies in Autonomous Vehicles and Supporting Robotic Technology, 2nd Global Summit and Expo on Robot Intelligence Technology and Applications, September 19-21, 2022, Barcelona Spain.

D. Ostrowski, "Hands on tutorial of Blockchain Technologies", IEEE AI4I Workshop and Tutorial on Blockchain technology Workshop organizer / presenter, Sept 2021, September 19-21, Barcelona Spain.

D. Ostrowski, "Blockchain Technology Overview, Acronis CSC (lecture series) , June 2021

D. Ostrowski, "Machine Learning and Blockchain", Interop, 20-23 May 2019, LV, NV

D. Ostrowski, "Collective Social Signal", IEEE International Symposium on Multimedia (ISM 2013), Anaheim, CA (dec 2013)

D. Ostrowski, "Semantics in Social Media Analytics", First IEEE International Conference on Internet Operating Systems and New Applications (ICIOS-2012), IEEE ICIOS, Irvine Ca. 2012

Workshops

Tutorial and Workshop on Artificial Intelligence Applications with Big Data (AIBD 2018-2021) part of IEEE Artificial Intelligence for Industries, IEEE AI4I, Workshop Chair and Presenter

Tutorial and Workshop on Semantic Computing with Big Data (SCBD 2014-2021) part of IEEE ICSC International Conference on Semantic Computing, IEEE ICSC, Workshop Chair and Presenter

Tutorial and Workshop on Semantics in Social Computing (SCSC 2013) part of IEEE ICSC International Conference on Semantic Computing, IEEE ICSC 2013 Irvine, CA , Sept 2013 Workshop Chair and Presenter

The 2nd University of Michigan Workshop on Data, Text, Web and Social Network Mining, University of Michigan, 2011

Presentation

"Predictive Semantic Social Media Analysis"

SIAM: Symposium on Complexity and Advanced Analytics, University of Michigan Dearborn, 2009

Presentation

"A Meta-Reasoning Framework for Credit Analysis"

INFORMS Annual Meeting, Pittsburg PA 2006

Presentation:

"Determining the Value of Manufacturing Flexibility for a Multi-Plant System", David Ostrowski, Mark Everson

IEEE Visualization,, Baltimore, MD 2006

Poster Session (accepted)

"A Web-Based Interactive 3D Visualization Architecture"

SIAM: *Symposium on Complexity and Advanced Analytics: Theory and Applications*, 2006
Presentation

"Applying Data Stream Mining to Analyze Supply Chain disruption risk"

Vancouver Python Workshop, Vancouver, VC 2006

Presentations:

"Prototyping n-tiered AJAX and Web Service-Based Applications using Python and Jython"

"Python for Web Technologies – Using Python for Graduate Computer Science Instruction"

SIAM: *Symposium on Complexity and Advanced Analytics Applied to Business, Government and Public Policy*, 2004

Presentations:

"Agent-Based Modeling at Ford's Research & Advanced Engineering Division", David Ostrowski, John L. Sullivan, Craig Stephan

"Benefits of Manufacturing Flexibility Evaluated at an Enterprise Level", Mark Everson, David Ostrowski, Charu Chandra and Janis Grabis

SIAM *Conference on Mathematics for Industry: Challenges and Frontiers*, 2003

Presentations:

"Evaluation of Parts Commonality Strategies in Manufacturing", David A. Ostrowski and Mark P. Everson, Ford Motor Company

"Modeling Manufacturing Flexibility Benefits at the Enterprise Level", Mark P. Everson, Ford Motor Company, Charu Chandra and Janis Grabis, University of Michigan – Dearborn, David A. Ostrowski, Ford Motor Company

"Modeling Pricing Elasticity in a Durable Goods Market"

Troy Tassier, University of Michigan-Dearborn, Mark P. Everson and David A. Ostrowski, Ford Motor Company

Presented an invited Poster Session at the Institute of Mathematics and its Applications Workshop, Minneapolis, MN, 2003 Agent Based Modeling and Simulation

"Using Cultural Algorithms to Evolve Strategies for Recessionary Markets" by David A. Ostrowski, Mark P. Everson, Robert G.Reynolds, Nov 3-6

AWARDS

Research and Advanced Engineering Publication Award 2012

Customer Driven Quality Award 1998

GTO Achievement Award 1998

ETS technology award 1994

CPD Q1 Customer Quality Award, 1994

Dynamometer Employee Recognition Award (Engine Mapping Team) 1994

Dynamometer Employee Recognition Award (Automated Mapping Software) 1993