

Curriculum Vitae of Zhongyan Lin, Ph.D.
(<https://zhongyanlin.github.io/site/vitae/>)

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EXPERIENCE

Associate Professor, Department of Computer and Information Science,
Delaware State University, 8/1999 – Present (Regular semester)

- Courses taught:
 1. Computer Science I &II (with C++)
 2. Data Structure and Algorithm (with Java)
 3. Introduction to Web Development (HTML, CSS & JS)
 4. Technologies for Web Application (Angular JS, Node.js, Mongo DB)
 5. Web Application Development (JSP & Database)
 6. Computer Organization
 7. System Architecture
 8. System Programming (Assembly and C)
 9. Concurrent Processing (graduate level)
 10. System Development Techniques
 11. Computer Network
 12. Network Security
 13. Performance Analysis
 14. Software Engineering
 15. Computer Science Projects
 16. Project management
 17. Management Information Systems
 18. Mobile Computing (Android and Swift)
 19. Computational Thinking (with python)
 20. Script Programming (with python)
 21. Data Mining (with python)

- Earned the Certificate of Effective Teaching Practice Framework issued by the Association of College and University Educators (ACUE) And the American Council on Education(ACE)
- Developed a large scalar TeaLeaMan(Teaching and Learning Management System) single-handedly. It covers major operations related to teaching and learning in a university: academic programs, staff and students, registration management, course scheduling, assignments, tests, submission, grading, aggregations, evaluation and assessments, communication, remote file management, application integrations, etc. It has about 1000 stored procedures and numerous web application components, and the system is self-expendable. It is also a cross-platform, rapid development tool for developing and deploying any kind of enterprise web application systems. This system can work with Oracle, MySql,SQL Server, postgres, and Access. C++, Java, Javascript, SQL, XML are the main languages used in the project. A demonstration is available.
- Built a SUN UNIX lab single-handedly: Wrote the plan and proposal to get funding, designed the network, purchased the hardware and software, configure the system and administrate the system

Contract Consultant, University of Pennsylvania Medical School, Summer 2012

- Data analytics project for cancer research
- Parsed 1.5 terabytes of clinic data and medical images to build an online database for medical scientists to perform data mining tasks
- Apply various statistical routines to search for correlations

Contract Consultant, S B Media, South Korea, Summer 2011

- Built a web interface for database routines
- Developed web service integration

Contractor: A national Research Lab, Summer of 2004, 2005, 2006, 2007,2008

- Developed a C++image processing library for Image Registration.
- Completed a project: Airborne Image Compression and Transmission using TI DSP Technology suite (C/C++version).

- Developed a program to statistically model armor penetration experiments.

Contract Consultant, MBNA America Bank(now **Bank of America** creditcard), Newark, DE, 5/2000-9/2000:

- Developed a Common Service component called BEA TUXEDO event adaptor/PATROL in C++ and UNIX
- Tested and enhanced a Common Service component called Generic Access in C++ using ROGUE WAVE libraries, Sybase, Informix and Oracle.

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Software Engineer, Commercial Aviation Systems, **Honeywell** International, 8/1998-8/1999

- Maintained the previous versions of Flight Management System:
- Analyzed the binary data captured during software failures to debug the system
- Developed GUI tools to automate the analysis process, using C++ Builder
- Developed GUI/database tools (client/server model) to maintain and access historic data and system configuration data, using C++ Builder, SQL Server, Access and scripting
- Developed new version of Flight Management System in Honeywell EPIC program:
- Worked in the team to convert Flight Management System from PL/M to C++
- Developed a GUI tool to automate the conversion, using C++ Builder and various classic and developed algorithms
- Worked in the core group to port the software to DEOS (Honeywell OS for aviation systems), using DEOS, Visual C++ studio and Visual Source Safe
- Developed the debug monitor component of EPIC FMS, using Visual C++ under Visual Source Safe, network programming and multi-thread programming

Programmer Analyst, Support Systems, Inc. 6/1997 – 12/1997 (full time)

- Converted DOS version of Industrial Insurance Management System to Windows system using Magic
- Wrote 200+ SQL stored procedures

Lecturer, Hunan University, 7/1985 – 12/1992

Course Taught: Calculus, Linear Algebra, Probability and Statistics

Teaching Assistant and Student Council, Central and Southern Institute of Ethnic Minority, 7/1983-8/1985

Course Taught: Computing and Algorithms

EDUCATION

- Ph.D. in Applied Mathematics
University of Delaware, Newark, Delaware, 8/1998
Research areas: mathematical physics, scientific computing
- M.S. in Computer & Information Science
University of Delaware, Newark, Delaware, 5/1997
Concentration areas: computer and information system
- M.S. in Applied Mathematics
Hunan University, 7/1988
- B.S. in Mathematics
Sichuan University, Sichuan, China, 7/1983

PUBLICATIONS

(See more details at <https://zhongyanlin.github.io/site/publication/>)

1. Fengshan Liu & Zhongyan Lin, Advances in Applied and Computational Mathematics , Chapter 11
2. Zhongyan Lin & R. Gilbert, Numerical algorithm based on transmutation for solving inverse wave equation, Mathematical and Computer Modelling, Volume 39, Issue 13, June 2004, Pages 1467-1476
3. R. Gilbert & Zhongyan Lin, Scattering in a shallow ocean with an elastic seabed, Journal of Computational Acoustics , Journal of Computational Acoustics, Vol.5, No.4 (1997) 403-431.
4. Zhongyan Lin, On the determination of radially dependent Lamé coefficients, SIAM J. Appl. Math. Vol.58, No.3(June.1998)

5. R. Gilbert & Zhongyan Lin, Fundamental singularity in a shallow ocean, *Applicable Analysis*, 68(1998), No. 1-2 p87-107
6. R. Gilbert & Zhongyan Lin, Acoustic field in a shallow stratified ocean with a poro-elastic seabed, *ZAMM. Z. angew. Math. Mech.* 77(1997) 9, p677-688
7. R. Gilbert & Zhongyan Lin, Underwater Acoustics, Generalized Analytic Functions, Kluwer Academic Publishers,
8. The Netherlands, p215-228
9. R. Gilbert & Zhongyan Lin, Direct and inverse problems in ocean acoustics, *Proceeding of the Second World Congress of Nonlinear Analysts*, Part 3 (Athens, 1996), *Nonlinear Analysis*, 30(1997), No. 3, p1535-1546
10. R. Gilbert & Zhongyan Lin, An acoustic inverse problem: numerical experiment, *Journal of Computational Acoustics*, Vol.3, No.3(1995) p229-240 (joint with Gilbert)
11. R. Gilbert & Zhongyan Lin, Acoustic waves in shallow inhomogeneous ocean with a layer of sediment, *Acustica*, Vol.82(1996), p729-737
12. R. Gilbert & Zhongyan Lin and James Buchanan, Acoustic waves in shallow inhomogeneous ocean with an interactive seabed, *Proceedings of the Conference on Mathematical Modeling of Flow Through Porous Media*, France, May 1995
13. Zhongyan Lin and Ainong Fang, The determination of radially dependent conductivity coefficient, *Applicable Analysis*, Vol. 50, pp 243-252
14. Zhongyan Lin, On the conditions for uniqueness and existence of the solution to an acoustic inverse problem, *Journal of Computational Acoustics*, Vol.1, No.10, 1993 (joint with Gilbert)
15. Zhongyan Lin, Three identities about Sturm-Liouville Problem and their application, *Journal of Hunan University*, vol. 19, No.5, Oct. 1992, p30-35

16. Zhongyan Lin, On the estimation of convergence rate of expansion using eigen-functions of Sturm-Liouville operator, Annual of Hunan Mathematics, No. 1-2, 1989
17. Zhongyan Lin, On the completeness of power function sets in $L[0,1]$ space, Journal of Huai Hua Normal College, Vol 4, 1992
18. Zhou, Zhan; Lin, Zhongyan, Some Results on the Linearized Oscillation of the Odd-order Neutral Difference Equation, : Applicable Analysis, Volume 82, Numbers 5-5, June 2003, pp. 401-409(9)

UNPUBLISHED TECHNICAL REPORTS

1. Image registration for battle-field assessment systems, submitted to Army research Lab, 2002
2. Image compression and transmission for an airborne system, submitted to Army research Lab, 2006
3. A statistic model for armor penetration test, submitted to Army research Lab, 2008
4. The discovery of correlation between breast density and the risk of breast cancer, submitted to the Army Research Office, 2014

SOFTWARE OF PUBLIC INTERESTS (excluding those funded by employers)

(See more details at <https://zhongyanlin.github.io/site/> 1,100,000 lines of source codes)

1. **J2swift:** Desktop Java application of translating the variable declarations, method APIs as well as math expressions from Java programs to Swift for speeding up the development of apps for Apple devices, but it will not translate libraries that support function calls
2. **Android2SwiftUI:** Desktop Java application of translating the Android Studio UI design, including layout files and menu files, to SwiftUI codes
3. **Enquire-Response:** Class/meeting/group coordinator and file synchronizer: administrating class quizzes, surveys, data collections and keeping files synchronized among iphone, ipad, android devices, Macbook and Windows PCs. ([google play store listing: https://play.google.com/store/apps/details?id=com.systemsonweb.response](https://play.google.com/store/apps/details?id=com.systemsonweb.response))
4. **Facial Attendance:** Android app of taking attendance of classes, meetings and group activities by tapping face icons ([google play store](#))

- listing:**<https://play.google.com/store/apps/details?id=com.systemsonweb.attendance>)
5. **Quiz Scanner:** Android app of scanning hand-written quiz submissions using digit recognition([google play store listing:https://play.google.com/store/apps/details?id=com.systemsonweb.grading](https://play.google.com/store/apps/details?id=com.systemsonweb.grading))
 6. **JDAO:** Java Data Access Object: web application for designing relational databases and rapidly generating form/grid web pages from data. It needs to be installed on a Java web application container
 7. **Maneuverable Showcase:** web application of making and presenting lectures for various subjects, supporting LaTeX, rapid formatting, multimedia integration, animation, content scheduling and maneuverability
 8. **CSS Editor:** Web development tool offering "What you see is what you get" capability of editing cascading style sheets
 9. **Sorting Demo:** Desktop animated demonstration and performance tests of classical sorting algorithms and their variants
 10. **CSV Merger:** Web application of merging two csv files using fuzzy key matching
 11. **Facial Attendance:** Java desktop application of taking attendance automatically by using face detection and recognition
 12. **TeaLeaMan:** A million-line-code, large-scale web application for teaching and learning management, supporting multi-languages and multi-institutions
 13. **Special Effects:** desktop Java application of processing multiple images at a time. Its functions include filtering, finding dominant color, replacing any color, altering geometric properties such as resizing, cropping and cutting corners, detecting human faces and rectangles, and removing straight lines in the background
 14. **Blackboard Batch Grading:** a Java application that grades all submissions to an assignment/test downloaded from Blackboard, in a batch mode.

INVITED LECTURES

1. A teaching and learning management system, S.B. Media, Inc. Korea, 5/2010
2. A Teaching and learning management system, Asia University, Korea, 5/2010
3. Image compression and transmission on an airborne system, Army Research Lab, USA, 7/2007

4. A numerical algorithm on inverse problems for wave equation, International Conference on Scientific Computing, Nanjing, China 6/2005
5. Development of a teaching management system, University of Maryland at East shore, 2001
6. Some recent results on inverse problems, invited presentation, U.S.Naval Academy, 2/1997. Inverse problems for radially dependent media, The International Society for Analysis, its
7. Applications and Computation (ISAAC), Newark, Delaware, June, 1997
8. Acoustic scattering in shallow ocean, The Third International Theoretical and Computational Acoustics, Newark, New Jersey, June 1997
9. Acoustic near-field approximation in shallow ocean, 915th American Mathematical Society Conference, Chattanooga, 10/1996, Abstract published in Notice of AMS, Vol. 43, No.10, Oct.1996, p128

CERTIFICATE

Association of College and University Educators (ACUE) And the American Council on Education(ACE)



THE ASSOCIATION OF COLLEGE AND UNIVERSITY EDUCATORS AND THE AMERICAN COUNCIL ON EDUCATION

Be it known that

Zhongyan Lin

having demonstrated the comprehensive knowledge and
skills that constitute the ACUE Effective Practice
Framework has been presented with this

Certificate in Effective College Instruction

Recognized on the
18th of July of the year 2021

A handwritten signature in black ink, appearing to read "Ted Mitchell".

Ted Mitchell, PhD
President
American Council on Education

A handwritten signature in black ink, appearing to read "Penny MacCormack".

Penny MacCormack, EdD
Chief Academic Officer
Association of College and University Educators

A red vertical banner with a white upward-pointing triangle at the bottom, containing the letters "ACUE" in a bold, white sans-serif font.