

1903 N. Lincoln Avenue #111, Urbana, Illinois 61801
Phone: 217-721-9508
E-mail: cchen63@uiuc.edu

Chieh-Chun Chen

Objective

PhD in the field of Bioinformatics

Education

- 2006-present **University of Illinois, Urbana-Champaign (UIUC)**
Master of Science in Bioinformatics, Computer Science
- 2004-2006 **National Taiwan University (NTU)**, Taipei, Taiwan
Master of Business Administration, Information Management (IM)
Admission through recommendation, ranked 2nd out of all competitive applicants, GPA: 4.00/4.00
- 2000-2004 **National Taiwan University**, Taipei, Taiwan
Bachelor of Business Administration, IM
GPA: 3.79/4.00 (Overall), 3.81/4.00 (Major), 3.92/4.00 (Jr./Sr.)

Research Experience

- 4/2005-6/2006 **Mining Regulation Relationships between Gene Clusters by Using Time-Series Gene Expression Data (Master's Thesis)** Advisor: Prof. Anthony J.T. Lee
Applied data mining techniques to time-series gene expression data in order to cluster genes. Inferred relationships from gene cluster characteristics.
- 9/2004-6/2006 **Mining Time Series Gene Expression Data** Advisor: Prof. Anthony J.T. Lee
Searched for useful patterns from time series microarray datasets efficiently and combined them into complex regulatory networks.
- 9/2004-6/2006 **Mining Maximal Sequential Patterns in Proteins** Advisor: Prof. Anthony J.T. Lee
Used a suffix-tree-based algorithm to mine closed frequent patterns in order to generate maximal sequential patterns and hierarchical structures of protein families.
- 2/2004-9/2004 **DNAC: A Compression Algorithm for DNA Sequences** Advisor: Prof. Anthony J.T. Lee
Presented a lossless compression algorithm for genetic sequences by searching for overlapping approximate repeats.
- 2/2004-9/2004 **Transformation-Based Database Filtration(TDF)** Advisor: Prof. Anthony J.T. Lee
Proposes a novel filtration method using wavelet transform technique combined with indexing to efficiently screen out most unlikely sequences from a biological database for a given query sequence and to guarantee no false negatives.
- 3/2003-1/2004 **HyperPDB: Personal Data Backbone System** Advisor: Prof. Yuh-Jzer Joung
Developed a "hyperPDB" system, a peer-to-peer program built up by hypercube P2P networks allowing one joining the system to take the whole P2P network as their personal hard disk, storing and retrieving data within consideration of network security and licensing anytime and anywhere.

Working Papers

- 2006 **Mining Regulation Relationships between Gene Clusters by Using Time-Series Gene Expression Data**, Anthony J.T. Lee, Chieh-Chun Chen, submitted to *Journal of Bioinformatics*
- 2006 **Mining Maximal Sequential Patterns in Protein Databases**, Anthony J.T. Lee, Hugo Ling, Chieh-Chun Chen, to be submitted to *Journal of Bioinformatics*
- 2006 **Mining Time Series Gene Expression Data for Gene Networks**, Anthony J.T. Lee, Yen-Fu Chen, Chieh-Chun Chen, to be submitted to *Journal of Bioinformatics*
- 2005 **A Novel Filtration Method in Biological Sequence Databases (Under Revision)**, Anthony J.T. Lee, Wen-Hsing Lo, Chao-Wen Lin, Chieh-Chun Chen and Hueiyfen Wang, submitted to *Journal of Pattern Recognition*
- 2005 **DNAC: An Efficient Compression Algorithm for DNA Sequences**, Anthony J.T. Lee, Chun-Ho Chang, Chao-Wen Lin, Chieh-Chun Chen, submitted to *Journal of Computer Society*

Work Experience

2006-present	Teaching Assistant , CS105, Dept. of CS ,UIUC
2004-2006	Teaching Assistant , Computer Laboratory of the Dept. of IM, NTU Administrator Assistant , Website of the Dept. of IM, NTU
2004-2006	Teaching Assistant , Undergraduate Project on Bioinformatics
2003-2004	Tutor , for High School students in mathematics
2002	Intern , Database Designer, Better Life Monthly Co., Ltd.

Course Projects

2005	Application of Multivariate Analysis on Bioinformatics , Linear Algebra and its Application Survey of Data Mining on Bioinformatics , Mining Frequent Subgraphs in Biological Network , New Trends and Technologies in Knowledge Engineering Online Integrated Trading Platform Using Object-Oriented Database , Advanced Database
2004	Gnutella: P2P Software , Project on Information Management Online Purchasing System , Information Security Trends of E-commerce on Telecommunications , E-Commerce & Multimedia Strategy Survey of Intellectual Property of IBM , Integrated Intellectual Capital Management System
2003	Database of Personal Favorite , Database Management Multimedia Streaming on Mobile phone , Wireless Application Services-Competition Landscape and Business Model Analysis of NTU Library Information System , Systems Analysis and Design

Technical Skills

Programming Languages

C/C++, Java, Java Servlet, Java Script, ASP, JSP, PHP, Html, XML

Tools

Visual Basic/C++/C# .Net, J Builder, Borland C++ Builder, MySQL, Access, Flash, Dreamweaver, Photoshop, PhotoImpact, CoralDraw, PageMaker

Relevant Courses

Computer-Related Courses

(UIUC CS498SS) Algorithm in Bioinformatics	Programming Design
(UIUC CS412) Introduction to Data Mining	Computer Organization and Structure
(UIUC CS450) Introduction to Numerical Analysis	Statistics
Discrete Mathematics	Computer Architecture
Data Structure	Object-Oriented Software Design
Computer Networks and Application	Operating Systems
Programming Languages	Database Management
Project on Information Management(I)	Wireless Application Services-Competition
Project on Information Management(II)	Linear Algebra and its Application
Information Security	Advanced Database
New trends and Technologies in Knowledge Engineering	Seminar on Databases
	Readings in Data Engineering

Biology-Related Courses

Fundamentals of Biochemistry	Bioinformatics
Seminar on Databases	Readings in Data Engineering
Biology (audited)	Genomics (audited)

Extracurricular Activities

2004	Core Member of Academic Department , Association of East Asia Research Universities (AEARU) 2004 Student Summer Camp- Asia Youth Technology and Finance Forum
2003-2004	Core Member of Editorial Department , Graduating Students Association, NTU Chief Editor , NTUIM graduation souvenir Director of Academic Department , NTUIM summer camp