

Dimitrios Vytiniotis

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Objective

PhD in Computer Science that will lead to an academic career.

Education

Nat. Tech. University of Athens (NTUA) *October 1997-March 2002*

- ◇ Graduated from Electrical and Computer Engineering Department (ECE) (5-year studies), specialized on software and communications engineering (March 2002).
- ◇ Member of Technical Chamber of Greece (July 2002).
- ◇ GPA: 9.3/10.0 (ranked in upper 3% in a class of 300).
- ◇ Courses taken include Software Engineering, Parallel Processing, Operating Systems, Compilers, Neural Networks, Algorithms and Complexity, Advanced Database Topics, Computer Networks, Broadband Networks, Mobile Communications.

Teaching Experience

NTUA ECE Programming Languages Laboratory *Oct. 2002-present*

Teaching assistant in the programming languages laboratory for the Programming course of ECE Dept. Giving Pascal and C programming advice in laboratory groups of 20 students.

NTUA ECE Software Engineering Course *Oct. 2002-present*

Teaching assistant in the Software Engineering Course of the NTUA ECE Dept. Will give lectures to undergraduate students on Software Engineering issues.

Advanced Topics on Databases Course *2001*

Wrote in cooperation with 2 other students a review on Database Clustering in Large, Object Oriented and Spatial databases, which will be included in the official course notes starting 2002-2003.

NTUA ECE Telecom Laboratory *2000*

Ported A.Tannenbaum's Network Simulator (see "Computer Networks" book, third edition) from Unix to Win32. The tool simulates various network layers and has been used by students of ECE Dept. in official laboratory exercises.

NTUA ECE Programming Languages Laboratory *Oct. 1998-Jan. 1999*

Supervised NTUA ECE Dept. students in Pascal and C programming assignments for the programming languages laboratory course.

Research Projects

Type Systems, Certifying Compilers, λ -calculi *Software Eng. Lab
Aug. 2002-present*

- ◇ Investigation on proof carrying code techniques and compilers, type systems and higher order λ -calculi with inductive types. Also involves functional programming, Haskell and Coq. Contributed to a Haskell implementation of the calculus of inductive constructions (CIC). This work was part of a project aiming to implement a new version of the Yale FLINT language, with explicit support for proving properties of programs.

Parallel and high performance computing *Computer Systems Lab
Oct. 2001-Jan. 2002*

- ◇ Nested loop parallelization project using tiling on a 32-PC Linux cluster assembled in CsLab, using the mpich library, in a group of 2 students.
- ◇ Investigation and presentation on the Virtual Interface Architecture for user level networking, in a group of 2 students.

Intelligent Networks.....Telecom Lab
2000-2001

- ◇ Successful application of the Parlay APIs and CORBA functionality to a Hicom switch, as part of a major European Research and Development project, "IST-STARLITE", in which the NTUA participated.

**Development
Projects**

Linux Kernel Microcomputers Lab, Independent projects
2000-present

- ◇ Fast Ethernet traffic generator (modifications in network protocol stack to override ARP, and to avoid time consuming kernel procedures; also added user interface in /dev filesystem).
- ◇ Device Drivers (modifications in network interface driver) and system call implementations (related to process control).

Compilers..... Software Eng. Lab
Feb. 2001-June 2001

- ◇ Design and full implementation of a compiler for a C-style language, called Calvin, in a group of 2 students.

Unix System Programming..... Computer Systems Lab, Independent projects
2001-present

- ◇ Networked applications (Unix sockets).
- ◇ Concurrent database system (Unix sockets, logging, file locking, scheduler), in a group of 2 students.

Neural Networks..... Computer Systems Lab
Oct. 2001-Jan. 2002

- ◇ Several Neural Net simulations in C (Boltzmann, Morita, Hopfield, SOM) and Matlab.

Operating Systems..... Computer Systems Lab, Software Eng. Lab
May 2001, Sept. 2001-Jan. 2002

- ◇ EMPix (experimental OS developed at NTUA ECE Dept.) scheduler modifications and new system call implementation, in a small group.
- ◇ Modification of EMPix for embedded applications and interface definition for a component based operating system (base OS was EMPix once more), in a small group.

Databases..... Databases and Advanced Databases courses
Sept. 2000-Jan. 2001, Sept. 2001- Jan. 2002

- ◇ SQL, MySQL, Postgres, Access, JDBC-ODBC API.
- ◇ Libpq (C/C++) Postgres library (user interface for a Postgres database).

Network Programming..... Telecom Lab, Independent projects
1999,2000,2001

- ◇ Text based radio station for the internet based on IP multicasting, in a group of 2 students.
- ◇ XML information retrieval web engine for Athens' cinemas with alternative output to WML (WAP), in a group of 3 programmers.

**Work
Experience**

GSM SMS Server Suite..... Semantix SA, Athens
Software Engineer Aug. 2002-present

Design and implementation of a SMS server suite and related tools. Involved RS232 programming under GNU/Linux and Windows XP, GSM AT commands, C/C++ programming.

ASN1 Compiler Semantix SA, Athens
Software Engineer June 2002-July 2002

Design and implementation of an ASN1 compiler for TAP file formats, to automate the coding for an older project (see below, Panafon-Vodafone DCH project) (10,000 C++ lines, Flex, Bison) in cooperation with one software engineer.

Panafon-Vodafone DCH Semantix SA, Athens
Software Engineer Oct. 2001-present

Development of a Data Clearing House (DCH) for the GSM roaming procedure of the VODAFONE group (350,000 C++ lines) in a small group of programmers and engineers. Involved ASN1, TAP file formats, FTAM, BER, Oracle DBMS, GSMA procedures. This major project is going live in 2002 on an HP-UX VODAFONE Server in Athens.

“Schematopoiesis” Project NTUA, Democritos Inst.

Software Engineer *Jan. 2001-May 2001*

Creation of a Stylistic and Grammatical Checker for controlled language texts in Greek and provision of Web interface (4,000 Java lines) in cooperation with one programmer. Java, XML, MySQL, JDBC, Javascript.

Web Based Document Management Engine Navel Ltd, Athens

Programmer *Oct. 2000-Dec. 2000*

Series of Web applications for searching, storing, deleting, moving and adding text, pdf, html or msword documents in a corporate environment, in a group of 2 programmers. Technologies used were Jsp, Java, JDBC, XML-XSL, specialized Java APIs as Lucene, Struts, Apache, Resin, XForms, DHTML, Javascript.

Publications

Diploma thesis on Intelligent Networks Telecom Lab, 2002

“Design and implementation of software for an Intelligent Network Service Creation Environment”. Developed a code generator from SDL telecommunication service specifications to Java code. Part of the European Information Society Technologies R&D project STARLITE. Involvement with the Intelligent Network model, the Parlay APIs, the Specification & Definition Language, and programming in Java & CORBA. Supervised by Prof. I.Venieris. The output of this project is adopted by the greek national carrier.

Publication on design patterns DiLiMa Magazine, 2001

D.Vytiniotis: “Software design patterns: patternalism in software or useful tool?”, DiLiMa Magazine, Issue 5, 2001. An overview of basic design patterns that occur frequently in O2 programming and an explanation as for when, why and how should a programmer incorporate a well known pattern into her code.

Computer Skills

C, C++, Perl, Java, sh/bash, SQL, Lisp, Haskell, Linux administration, Flex, Bison, x86 assembly, HTML, DHTML, Javascript, WML, XML, XSL, ASN1, Pascal, Ada, L^AT_EX.

Background

Admitted at NTUA, ECE Dept. after national examination (1997)
Graduated from school with GPA 19.5/20.0 (1997)
Earned United Colleges scholarship for studying ECE in Mexico (1995)
Qualification Examination for the Greek National Team of Mathematics, rated in upper 10% of all greek students (1996)

Languages

English (TOEFL 287/300, Cambridge Proficiency)
French (DELF 1)
German (ZMP)

Hobbies

Basketball, guitar playing, jazz and blues, literature. Supporter of the Free Software movement (see www.gnu.org) and the GNU/Linux operating system.