

# Lance W. Feagan

3412 West 123<sup>rd</sup> Street  
Leawood, KS 66209

## Research Interests

Computer Architecture, Graphics, Secure Systems, High-Performance Computing, Numerical Algorithms

## Education

M.S. Computer Science, Expected September 2006  
The University of Kansas, Lawrence, KS  
GPA = 3.86

B.S. Computer Science, May 2004  
The University of Kansas, Lawrence, KS  
GPA: Major = 3.48/4.0; Cumulative = 3.15/4.0

Harvey Mudd College, Claremont, CA, 1999-2001

## Technical Abilities

Programming Languages

C (11 yrs), C++ (8 yrs), OpenGL (4 yrs), Java (4 yrs), Python, x86 ASM, SPARC ASM, Scheme

Operating Systems

Solaris 8/9/10; NetBSD; OpenBSD; Cisco IOS; HP-UX; Linux (SuSE, RedHat)

Research

Graduate Research Assistant—University of Kansas, ITTC, Lawrence, KS, Spring 2005 - Present

Working on the development of an integrated computational environment for bioinformatics research. I am designing and implementing a context-based, semantic database for managing all data utilized in the completion of computational experiments and searching through the database to find relationships that improve research outcomes. My thesis topic is the development of a system that allows variable schema that can evolve to meet the needs of the users. The project is using the Eclipse 3.2 framework, Java 5.0, Oracle 10g, and JDBC. Project funded by U.S. Army Edgewood Chemical Biological Center.

NASA/NSF Research Project PRISM [Polar Radar for Ice Sheet Measurements]—University of Kansas, CRESIS, Lawrence, KS, Fall 2001 - Spring 2002

Researched systems that would allow sub-centimeter RTK GPS measurements with >2 samples/sec

Sun Microsystems, Digital Electronics & Chip Design—Harvey Mudd College, Claremont, CA, Fall 1999

Co-designed a chip tester used for testing up to 256 pin flip chip packages with test vectors over a range of 1 to 5 volts

Evans & Sutherland—Harvey Mudd College, Claremont, CA, Spring 2000

Co-designed domino divider chip for a high-speed graphics processor

Beckman Laser Institute—Harvey Mudd College, Claremont, CA, Fall 2000

Co-developed and designed microlaryngeal stabilization system selected for production

Languages

Japanese (5 years)

## Experience

Graduate Teaching Assistant—University of Kansas EECS Department, Lawrence, KS, Fall 2004

Assisted Professor Gary Minden with the lab portion of the Senior Computer Engineering Design Course. Created labs and helped students develop the skills necessary for them to be successful professional engineers.

Reverse Engineer, Software/Systems Engineer—NovaTech LLC, Lenexa, KS, Summer 2004

Reverse engineered the proprietary protocols used on the Fisher-Rosemount PROVOX factory automation system. Also developed code for IRIG-B protocol module on the Intel 8051C microcontroller used for delivering 1ms accuracy to the timing resolution of NovaTech's systems which route the electrical grid during failover and other anomalous situations. Constructed NovaTech's initial security product that uses PKI for securing the connections to remote units which route the electrical grid. I specified the hardware requirements, purchased the hardware, and implemented all software necessary for the purposes of

prototype testing.

VHDL Optimization Engineer—Texas Instruments, San Diego, CA, Summer 2001

Worked on increasing the clock rate of TI's 3G WCDMA chipset by modifying the architecture, balancing registers, and by using other techniques.

IT Internship—Dodson Group, Kansas City, MO, Summer 2000

Researched, proposed, and implemented an integrated fax, voice, email, and telephony system to help reduce operational costs ~\$100k per annum

UNIX Systems Administrator—Harvey Mudd College, Claremont, CA, 1999-2001

Maintained all departmental UNIX systems for both professors and students of the Harvey Mudd Engineering Department.

Tutor for Foreign Graduate Students—KU Applied English Center, Lawrence, KS, Summer 2002

Instructed foreign students seeking to be GTAs on how to develop better pronunciation, teach them about the background of their likely students to further their understanding, and help them in developing better teaching skills.

## **Awards**

National Science Olympiad, 4th Polymers; 15th Surf the Net--May 1999

Missouri State Math Contest, First Place Team--May 1998 & May 1999

## **Advanced Courses**

Graphics

Computer Graphics (OpenGL), Scientific Visualization, Advanced Graphics (Ray tracing, shading, lighting models, photo realism), Geometric Modeling (mathematics of graphics, solid modelling), Digital Image Processing, Computer Vision

Security

Information Security I, Information Security II

Performance-Related

Numerical Analysis I, Parallel Computing, Reconfigurable Computing, Embedded & Real-Time Computing Systems

General

Software Engineering, Data Structures, Computer Algorithms, Computer Architecture, Operating Systems

## **Current & Past Independent Projects**

Heat of Battle

Lead developer and game type creator for the Call of Duty modification "Heat of Battle."

<http://www.HeatOfBattle.net>

Revolt

Consultant to the Call of Duty modification "Revolt."

<http://www.codmod.com>

IPSentinel

Developing a secure firewall solution that has a CLI and uses config files like those of Cisco (or others), but is capable of running with operating systems such as Open/Free/NetBSD, Solaris, or Linux and is capable of using a wide variety of firewall implementations, such as pf and ipfilter for example.

<http://www.IPSentinel.com>

## **Activities**

AMERICAN mensa LTD., 2003 to Present

IEEE and Computer Society, 2001 to Present

## **Interests**

Photography — Landscape & Nature (<http://www.vectorcomputing.net/Resources/photo/index.html>)

Wood Working — Furniture, hi-fi speakers, custom design using SolidWorks.

DIY Audio — DIY amplifiers, DACs, speakers.

IBM Thinkpads — Creator & maintainer of the IBM T4x FAQ at the Thinkpads.com forums.

## **References**

Available upon request.