

## Musfiq Niaz Rahman

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### **INTERNSHIP OBJECTIVES**

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To gain a research-oriented experience through system software development.

### **FIELDS OF INTEREST**

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Operating System, Virtualized Execution Environment and Computer Architecture.

### **EDUCATION**

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Ph.D. Student, Department of Computer Science, 2007 – Present,  
University of Pittsburgh, Pittsburgh, PA.

Advisers: Dr. Bruce Childers and Dr. Sangyeun Cho

B.Sc. in Computer Science and Engineering, 1999 – 2005,  
Department of Computer Science and Engineering,  
Bangladesh University of Engineering and Technology, Bangladesh.

### **AWARDS AND APPOINTMENTS**

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Graduate Student Researcher, Department of Computer Science, University of Pittsburgh, Pittsburgh, PA, Fall 2009 – Present.

A. Richard Newton Graduate Scholarship, the 45th Design Automation Conference (DAC), 2008. (Awarded under Dr. Sangyeun Cho's research proposal)

Graduate Teaching Assistant, Department of Computer Science, University of Pittsburgh, Pittsburgh, PA, 2007 – 2009.

Dean's List Scholarship, Bangladesh University of Engineering and Technology for academic excellence, 1999 – 2005.

Merit Scholarship, Bangladesh University of Engineering and Technology in every academic year for good result, 1999 – 2005.

## **RESEARCH AND ACADEMIC EXPERIENCE**

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### *Main Memory Failure Detection*

In this on-going project, we are developing a system based on Linux which will silently test all application memory for permanent failures. As an advancement of this project we are modifying KVM to support online memory testing for guest OS. (PhD Research Project)

### *Real-time OS*

Implemented B-Fair algorithm in Linux task scheduler. (Class project)

### *Application-based Power Management*

We changed CPU frequency dynamically based on the running process to observe system power saving. (Class project)

### *Hacking Linux Kernel Subsystems*

Hobby projects to explore various Linux kernel subsystems such as Process Manager, Memory Manager, Virtual File-System and Block I/O Layer.

### *Low-level Programming in Microprocessor Protected Mode*

Experienced in protected mode system programming with the Intel 80386 processors.

### *Real-Time and Embedded Operating Systems*

Studied and worked with projects based on Micro-Controller Operating System (uC/OS), RTLinux and Linux Kernel RT Patches in 2.4 series. (Undergraduate thesis)

## **PROFESSIONAL EXPERIENCE**

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Member, Research and Development, Commlink Info Tech Ltd., Dhaka, Bangladesh  
Responsibility: Device driver development for Flash-based storage media (SD Card)  
Work period: August 2005 to June 2007

## **TECHNICAL EXPERTISE**

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Programming Languages: C, C++, Java, Assembly Language (x86, MIPS)

Scripting: Python, Shell Scripting

Virtualized Execution Environments: KVM, XEN, Simics

Instrumentation tools: Pintool

Database and Web Technology: MySQL and PHP

Others: Parallel application programming using MPI and OpenMP

## **REFERENCES**

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Available upon request.