

**Roumen Kaiabachev**  
Computer Science MS-132  
Rice University  
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## EDUCATION

**Rice University**, Houston, TX      Doctorate student in Computer Science, Programming Languages      GPA 3.25  
M.S. in Computer Science Thesis defended 06/2006, degree expected 01/2007  
**Vassar College**, Poughkeepsie, NY      B.A. in Computer Science and Economics      GPA 3.60  
**Amherst College**, Amherst, MA      visiting student, academic year 2001-2002

## INTERESTS

- Programming languages (design and implementation, type systems, domain-specific languages, device driver robustness)
- Personal development (communication, storytelling, negotiation, persuasion, self-confidence, motivation)

## RESEARCH EXPERIENCE

Rice University, **Graduate Student**      Advisor: Dr. Walid Taha      2003 - 2006

- Designing a higher level language for developing device drivers that are safe w.r.t. their environment
- Implemented a translator from a subset of a functional language (MetaOCaml) to a subset of C. Extended an event-driven functional language for real-time reactive systems with prioritized events. Gained familiarity with the Windows OS internals, protected mode in the Intel x86 processors, device drivers in Linux and Windows.

Vassar College, **Research Assistant**      Advisors: Tom Ellman and Brad Richards      Summers 2003 and 2002

- Formulated geometric and physical models for robots and their environment, developed algorithms for controlling the robots' behavior, and generated C++/OpenGL programs that simulate and animate it
- Investigated the performance of application-specific communication schemes for parallel programs in an object-based distributed shared memory Java system

## WORK EXPERIENCE

National Instruments, Austin, TX, **Researcher**      Supervisor: Jonathan Brumley      Summer 2004

- Evaluated existing academic and industry higher level tools for device driver development

Merrill Lynch, Private Client Group, New York, NY, **Intern**      Summer 2001

- Assisted in client portfolio reviews by creating Excel spreadsheets and graphs and compiling documentation
- Screened mutual funds according to their performance and risk level for the client

Computer Help Desk, Vassar College, **Software Consultant**      1999 - 2001

- Provided computer support for the college community (Mac/PC and network configuration; OS maintenance, word processing, and multimedia applications)

## SKILLS

Spoken Languages      Bulgarian (fluent), German (intermediate), Russian (intermediate)  
Programming Languages      C, C++, Java, OCaml, Assembly, Scheme, MySQL  
Software Familiarity      MS Office, STATA, EViews, Mathematica, Mathlab

## PUBLICATIONS

Kaiabachev, Taha: *E-FRP with Priorities*. Submitted to PADL 2007  
Eckhardt, Kaiabachev, Pasalic, Swadi, Taha: *Implicitly Heterogeneous Multi-stage Programming*. GPCE 2005  
Richards, Kaiabachev: *Java-based Distributed Shared Memory with Object-Level Coherence Protocol Selection*. PDCS 2003

**EMPLOYMENT AUTHORIZATION**      US permanent resident, citizen of Bulgaria