Matthew J. Croop

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Permanent address
5914 Stafford Way
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Current Address
3913 Baltimore Avenue
Philadelphia, PA 19104

EDUCATION

University of Pennsylvania, School of Engineering and Applied Science, Philadelphia, PA
Candidate, Bachelor of Science in Engineering, Computer Science   Cumulative GPA: 3.95
    Expected graduation May 2012   In-major GPA: 4.00 (13 courses)
    Relevant courses: Computer Graphics, GPU Programming and Architecture, Functional Programming
    in Scala, Algorithms, Computational Linguistics, Computer Organization and Design, Complex Analysis
Candidate, Master of Science in Engineering, Computer and Information Science
    Expected graduation December 2012

North Central High School, Indianapolis, IN   *Graduated May 2008*
International Baccalaureate Diploma | National AP Scholar | USA Mathematical Olympiad qualifier

WORK EXPERIENCE

University of Pennsylvania, Philadelphia, PA   **Research Assistant**   *Summer 2010*
Created human animations for Lockheed Martin naval ergonomics/human factors system.
    Improved and extended path planning for collision-free reach. Added head/eye tracking of targets,
    naturally-timed grasp motions, and animation layering system to combine multiple actions.

University of Pennsylvania, Philadelphia, PA   **Teaching Assistant**   *Spring 2010*
Assisted Professor Mitch Marcus for CIS 120 (Programming Languages and Techniques I). Led a
    lab session, held office hours, wrote homework questions and lab presentations, and graded exams.

SELECTED PROJECTS

Courses API – Co-designed an API for accessing database of Penn course registrar information. *Fall 2010*

Beats – Programmed animation and GUI in rhythm game for Android phones.   *Fall 2010*

Functional Programming in Scala (Course project, independent study) –   *Spring 2010*
    Developed remote procedure call interface for a Scala implementation of PeerReview, a
    networked system capable of detecting malicious agents.

GPU Programming and Architecture (Course project) –   *Spring 2010*
    Implemented Principal Component Analysis-based transform for GPU image compression.

Snakeathon – Co-developed competition framework for AI players for the arcade game Snake. *Fall 2009*

LANGUAGES

Experienced	*Familiar*	*Prior Experience*
Java, Python, C++	Scala, C, CUDA	Assembly (z80), PHP, Matlab

ACTIVITIES

Dining Philosophers	Technology Chair, Faculty Representative	*Fall 2009 - present*
Science and Technology Wing	Member	*Fall 2008 - present*
Penn Undergraduate Math Society	Member	*Spring 2009 - present*
Penn Wind Ensemble	Member	*Fall 2008 - Spring 2009*