

# ZEINAB TORABI

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## EDUCATION

### 2011 - 2016

- **Ph.D.** in Computer Engineering (Computer Architecture), Department of Computer Science and Engineering, Shahid Beheshti University.  
**Supervisor:** professor Jaberipur.  
**Thesis title:** dynamic range partitioning and its application in complicated operations.

### 2006 - 2008

- **M.Sc.** in Computer Engineering (Algorithms and Computations), University of Tehran. (Ranked 24th in M.Sc. Entrance Exam, 2006)

### 2001 - 2005

- **B.Sc.** in Computer Science, Shahid Beheshti University.

## RESEARCH INTERESTS

- Computer Architecture
- Computer Arithmetic
- Residue Number System
- Application of RNS in Artificial Intelligence
- Data Mining
- Recommendation System

## TEACHING EXPERIENCE

- Computer architecture
- Microprocessors and assembly languages

- logic circuits
- Fundamental of computer programming
- Computer workshop
- Research and technical presentation
- Microprocessor laboratory
- Digital electronics
- Embedded and real time systems
- Theory of computation
- Approximation algorithms

## COMPUTER SKILLS

### SOFTWARE SKILLS

- C, C++, Java, Python, HTML, MYSQL.
- MATLAB.

### HARDWARE SKILLS

- Verilog, VHDL
- Modelsim, Quartus, Proteus, CodeVision AVR, Synopsys Design Compiler, Cadence SOC Encounter
- MIPS, X86, AVR

## PUBLICATION

- Torabi, Zeinab, and Somayeh Timarchi. "Sign Detection and Signed Integer Comparison for the 3-Moduli Set  $\{2^{n \pm 1}, 2^{(n+k)}\}$ ." Computer Science 22.3 (2021).

Torabi, Zeinab, Ghassem Jaberipur, and Atefeh Mirnaseri. "RNS Comparison via Shortcut Mixed Radix Conversion: The Case of Three 4-Moduli Sets  $\{2^{n+k}, 2^{n \pm 1}, m\} (m \in \{2^{n+1 \pm 1}, 2^{n-1-1}\})$ ." IETE Journal of Research (2021): 1-7.

- Rohani, Yasser, Zeinab Torabi, and Sahar Kianian. "A novel hybrid genetic algorithm to predict students' academic performance." Journal of Electrical and Computer Engineering Innovations (JECEI) 8.2 (2020): 219-232.
- Torabi, Zeinab, Ghassem Jaberipur, and Armin Belghadr. "Fast division in the residue number system  $\{2^{n+1}, 2^n, 2^{n-1}\}$  based on shortcut mixed radix conversion." Computers & Electrical Engineering 83 (2020): 106571.
- Torabi, Zeinab, and Armin Belghadr. "An RNS Comparator via Dynamic Range Partitioning: The Case of  $\{2^{n-1}, 2^n, 2^{n+1-1}\}$ ." The CSI Journal on Computer Science and Engineering 16 (2), (2019): 38-43.

- Torabi, Zeinab, and Ghassem Jaberipur. "Fast low energy RNS comparators for 4-moduli sets  $\{2n\pm 1, 2n, m\}$  with  $m \in \{2n+1\pm 1, 2n-1\pm 1\}$ ." *Integration the VLSI journal*, 55 (2016): 155-161.
- Torabi, Zeinab, and Ghassem Jaberipur. "Low-power/cost RNS comparison via partitioning the dynamic range." *IEEE Transactions on Very Large Scale Integration (VLSI) Systems* 24.5 (2015): 1849-1857.