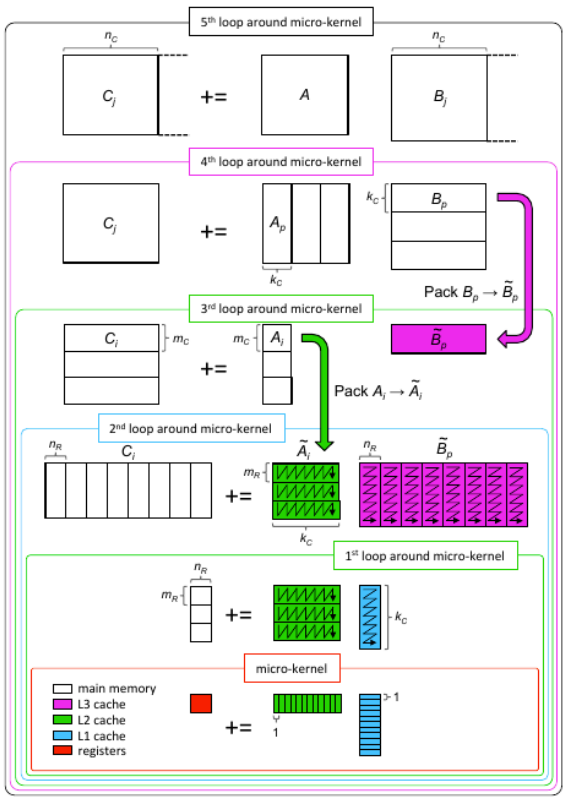

Loop 5 **for** $j_c = 0 : n-1$ **steps of** n_c
  $\mathcal{J}_c = j_c : j_c + n_c - 1$
Loop 4 **for** $p_c = 0 : k-1$ **steps of** k_c
    $\mathcal{P}_c = p_c : p_c + k_c - 1$
    $B(\mathcal{P}_c, \mathcal{J}_c) \rightarrow B_c$ // Pack into B_c
Loop 3 **for** $i_c = 0 : m-1$ **steps of** m_c
      $\mathcal{I}_c = i_c : i_c + m_c - 1$
      $A(\mathcal{I}_c, \mathcal{P}_c) \rightarrow A_c$ // Pack into A_c
      // Macro-kernel
Loop 2 **for** $j_r = 0 : n_c - 1$ **steps of** n_r
        $\mathcal{J}_r = j_r : j_r + n_r - 1$
Loop 1 **for** $i_r = 0 : m_c - 1$ **steps of** m_r
          $\mathcal{I}_r = i_r : i_r + m_r - 1$
          // Micro-kernel
Loop 0 **for** $k_r = 0 : k_c - 1$
            $C_c(\mathcal{I}_r, \mathcal{J}_r)$
              $+= A_c(\mathcal{I}_r, k_r)\ \ B_c(k_r, \mathcal{J}_r)$
          endfor
        endfor
      endfor
    endfor
  endfor
endfor

Figure 1: Left: The Goto algorithm for matrix-matrix multiplication as refactored in BLIS. Right: the same algorithm, but expressed as loops.

An Exercise in Optimizing Matrix-Matrix Multiplication

Jianyu Huang Robert A. van de Geijn

Draft
January 28, 2016

Abstract

Abstract.

1 Introduction

2 The Goto Approach to Implementing GEMM

[1] [5] [4] [2] [3]

3 Conclusion

Conclusion.

Additional information

For additional information on FLAME visit

`http://www.cs.utexas.edu/users/flame/`.

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