**Budget Justification: Tufts University**

PI: Kathleen Fisher

**A. Senior Personnel** **$9,915**

**Kathleen Fisher**, PhD, PI (Professor and Chair, Computer Science Department – 0.25 summer month/year) She is an expert in domain-specific languages and in synthesizing performance-tuned programs in specialized domains. Kathleen’s role will be to supervise the graduate student and, with Co-PI David Walker, co-lead the efforts in developing the theory and practice of Resource-Aware Synthesis Plugins (RASPs).

**B. Other Personnel** **$71,959**

**Matthew Ahrens** (PhD candidate, CS Dept, Tufts University - 12 calendar months effort per year) Matthew will be engaged part-time for the duration of this project. His/her role will be to work with the Co-PIs to design and implement the RASP infrastructure. He will take the lead in developing RASP technology in the context of visual programming languages, pulling on his previous experience with BlockyTalky.

A 3% escalation increase is included for senior personnel and graduate student salary.

**C. Fringe Benefits $1,695**

Faculty, summer effort – 17.1%

The University’s applicable negotiated fringe benefit rates from Department of Health and Human Services was updated on June 19, 2017. Graduate student academic year salary is exempt from fringe.

**D. Equipment**   
No equipment cost is requested.

**E. Travel**

No travel cost is requested.

**F. Participant Support Cost**

No participant support cost is requested.

**G. Other Direct Costs** **$23,580**

*1. Materials and Supplies*

N/A

*2. Publication Costs/Documentation/Distribution*

N/A

*3. Consultant Services*

N/A

*4. Computer Services*

N/A

*5. Subcontracts*

N/A

*6. Other*

Graduate Student Tuition and Health Fees: The annual tuition fee in the School of Engineering per each full-time graduate student on a grant is $8,156 for 2018-2019, and is charged in proportion to the amount of effort each graduate student works on the project. This amount is escalated at 4% per year.

For 2018-2019 the budget includes $3,403 per each full-time graduate student on a grant and is charged in proportion to the amount of effort each graduate student works on the project. This amount is escalated at 4% per year.

**H. Total Direct Costs $107,149**

The total amount of direct costs budgeted for all years of this proposal.

**I. Indirect Costs $50,686**

F&A costs are computed at the Medford campus applicable negotiated rate of 56% per agreement with Department of Health and Human Services was updated on June 19, 2017. No indirect costs are charged for tuition or capital equipment.