

Request for Technology Fee Funds: FY20

NOTE: A separate request should be made for each initiative.

I. Department Number/Department Name:

360	College of Computing
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Title of Request (please be brief):

PACE Expansion to Extend Access to all Graduate Students
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Amount of Request (formula from detailed budget below):

\$459,000

Type of Proposal: Atlanta or Dist Lrng/Non-Atl

Dist Lrng/Non-Atl

Was this project request funded in FY19?

No	(Yes or No)
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Are there installation/renovation costs associated with this request?

No	(Yes or No)
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If "Yes" then indicate the source of approved funding:

(Note: Tech Fees are not allowed for installation/renovation)

Executive Summary of Request (100 words or less):

Experience with High Performance Computing is quickly becoming a prerequisite for many industries hiring our Computer Science graduates. We propose to expand the College's investment in PACE to extend access to all Online Masters of Science in Computer Science students.
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Specific class and/or lab initiative(s) if applicable:

Contact person for this request (incl. phone #):

Will Powell (404) 894-9301

Responsible faculty for this request (incl. phone #)

Will Powell, Ken Honea (404) 385-3781

Indicate priority per department if applicable:

Number		of	
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Indicate priority per college or unit:

Number	3	of	5
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II. Impact on Students - Provide course title, course number, and anticipated enrollments:

Titles/Numbers of Course(s)

Current OMSCS Enrollment

Anticipated Enrollments

Graduate:	8,656	(per	sem) sem or yr
Undergraduate:		(per) sem or yr
Total:	8,656			

The estimated percent use of the resources in the item by:

Students	95%
Faculty	5%
Other	
Total:	100%

Brief explanation of how estimate was achieved.

The majority of the usage will be OMSCS students using the resource.
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NOTE: Other impacts on students should be described in narrative to include benefits to the students affected.

III. Detailed Budget - Requested Items by Category List separately any equipment, software, and other allowable expenses (see Tech Fee Guidelines). There is a formula in the "total column" that multiplies the number of items times the unit price. You may enter a figure into the total column if the unit pricing is not applicable. If you need additional rows, contact the Budget Office to receive a modified form. Software or data license proposals should indicate how many years the item has been funded through student tech fees in narrative.

Supporting documentation is required- Include price justification in some form, such as quotations, published price lists, etc. as a separate PDF attachment. All supporting information should be in a single PDF.

Proposed Number of Items	Estimated Price per Unit	Total (\$)
V100 GPU node	20	\$14,200
512GB Intel Compute node	5	\$12,800
dual P100 GPU node	5	\$17,700
1TB storage for 5 years	45	\$500
		\$0
Total (linked to the total amount of request line above)		\$459,000

Please return form via e-mail in Excel format to: techfees@business.gatech.edu. Supporting information only in a PDF file.

IV. Narrative - Provide narrative justification for your intended use of the technology fee funds. Include narrative on how the education or research of the students will be enhanced. To include curricular, co-curricular, and extracurricular benefits expected to accrue to students through provision of this resource, including students outside the unit. Briefly state how information regarding similar technology use elsewhere on campus to benefit from lessons learned, to standardize, or differentiate, and to avoid duplication. Also include how the request aligns with the Strategic Plan of Georgia Tech.

OIT's Partnership for an Advanced Computing Environment (PACE) facility provides participants a sustainable, leading-edge high performance computing (HPC) environment. Strong support from Georgia Tech's senior leadership enables PACE to provide infrastructure, software, and dedicated technical services at no additional charge for participating researchers, allowing them to focus their HPC investments primarily on compute nodes and expanded storage. This frees faculty to focus on research while reducing their direct costs and increasing productivity of students and postdocs. The PACE facility is possible because of a long-term commitment by Georgia Tech to create an exemplary environment to advance Georgia Tech's leadership position in innovative research. The College has invested heavily in the PACE Instructional Computing Environment (PACE-ICE), an instructional specific version of PACE, which is now used for almost all HPC related coursework within the CoC.

However, for OMSCS students that either do not take an HPC related course, or are no longer enrolled in one, there is not an existing test bed for the kind of self led learning that our students are known for. If we want to truly act on the Institute's Strategic Objective to inspire creative and entrepreneurial thinking, we need to enable our students by providing them the tools they need to "customize their degrees". To further this mission, over the course of the last year we purchased 6 HPC nodes to be added to PACE using funds from the College's research budget. Based on current usage, we estimate that purchasing an additional 30 nodes will allow us to provide access to all Online Master of Science in Computer Science students, creating a first-of-its-kind general access resource for our students to use. We have requested 20 V100 GPU nodes to adequately seed this resource, with the intention of requesting 10 more specialized nodes (5 high memory, 5 double GPU) during next years Tech Fee process to further expand the capabilities of this cluster. We have included these 10 nodes on this year's request in case funding availability allows for their purchase.

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