Caltech ACM Team Aces Regionals, Faces International Competition

By Natalya Kostandova
STAFF WRITER

For a seventh year in a row, a Caltech team emerges at the top of the regional level of ACM International Collegiate Programming Contest (ACM ICPC) to earn a spot at the world level of the competition. The team, consisting of Nathan Watson, Emil Ibrishimov, and Zarathustra Brady, will travel to Stockholm, Sweden for the international showdown that will take place on April 21, 2009.

With seventy-three teams competing for the top spot in the Southern California Regional Contest, there was a certain amount of pressure for Caltech to win, but that just makes it more exciting.”

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Although all of the members of the team, exclusively composed of freshmen, participated in a wide variety of computing contests prior to their entrance into Caltech, none had experienced ACM ICPC before and had to largely rely on guidance from Eric Stansifer, a senior, who coached the team. “Eric Stansifer warned us that the problems will be annoying and long instead of algorithmically challenging and they were exactly that,” said Ibrishimov in an e-mail.

One of the problems, for example, “had a four page problem statement, in which a specification for a programming language was given for us to implement (complete with plenty of ambiguous wording, red herrings, and other headaches),” explained Brady.

The team correctly solved six out of eight problems presented to the competitors. While teams from UCSD, UCLA, UCSD, and Harvey Mudd also completed six problems, they did so slower and with some penalties, allowing Caltech zong zergling rush to secure the top spot with a non-negligible margin.

The international contest, however, offers a higher level of challenge, with teams representing the best from each of the seven continents (Antarctica excluded).

Aside from the geographical location far removed from Caltech and serious competition, the contest in Stockholm promises a significantly more intense set of problems for the teams to work on.

“The problems are supposed to be at a much higher level (algorithmically) in the world finals, along with the other teams,” wrote Brady. “We can’t expect to win, but that just makes it more exciting.”

In the past ten years of ACM ICPC, the title of world champions went to universities from Russia five times, from Poland and China two times each, and once to a college from Canada. The last time a university from the USA won the competition was in 1997, when the title of champions went to a team from Harvey Mudd College.

Watson Gets a Solar Makeover

CSSI completes first solar array of 13.7 kW, aims for 1.2 MW

By Casey Jao
STAFF WRITER

Watson Applied Physics laboratory is the newest structure campus to get a solar array. Working Wednesday through Friday of last week, teams of volunteer Caltech undergraduates, grad students, and post-docs mounted the seventy-two photovoltaic panels on the roof of Watson. When activated, the system will produce up to 13.7 kW of power.

The installation was organized by the Caltech Student Solar Initiative (CSSI), a student-run group that strives “to foster a culture of sustainability at Caltech through sustainability-oriented projects.” Applied Physics graduate students Morgan Putnam and Michael Kelzenberg, graduate students studying thin film photovoltaics under Professor Atwater, led the project.

In preparation for the effort, Putnam and Kelzenberg drew up a twelve-page document detailing the panel layout and the objectives for each day. Panel placements were measured to the hundredth of an inch, and the location was chosen to avoid shadowing the solar panels.

However, during the installation a nearby tree turned out to be taller than expected. It will likely be trimmed to minimize its impact.

While environmentally attractive, solar energy has traditionally been hindered by its high upfront cost. Despite increasingly steep energy prices and affordable solar technology, the average Joe would still need patience while recuperating initial costs. According to the website of Beyond Oil Solar, a solar panel vendor, a typical 200-watt residential solar panel costs roughly $800. Department of Energy statistics put California electricity at 14.42 cents per kWh, which translates to a minimum nine year pay-off period assuming noontime sunshine for eight hours per day. A MarketWatch article last year cited more sober estimates ranging from sixteen to twenty-five years.

To encourage solar power and alleviate strain on the power grid, many utility companies are offering rebates to anyone who installs a photovoltaic system. For residential installations, Pasadena Water and Power offers $3.50 to $4 per expected watt of output.

As an increasingly popular alternative to purchasing and maintaining expensive solar modules, a party may enter into a Power Purchase Agreement (PPA), in which an external party finances the installation and maintenance of the panels and sells the electricity generated to the original party at a low predetermined price. Little investment is required of the original party. Most of Caltech’s solar projects will be financed through PPAs, and Caltech will pay 13 cents per kWh, slightly lower than what it would normally pay the Pasadena utility companies. The array on Watson, however, was a student-led initiative and is not part of the official Caltech Sustainability Roadmap found at sustainability.caltech.edu.

The panels were funded by the Moore-Huffstede Fund, Caltech Facilities, and the Graduate Student Council. Over the next eighteen months, CSSI will work with the Caltech Sustainability Project to add up to 1.2 megawatts of solar power to Caltech’s power grid. Watson and Holliston Park structures, Braun Athletic Center; Baxter; and the to-be-completed Cahill astrophysics building.

Crippling Depression & xkcd

In This Issue

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Word from the ASCIT President

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Advice from Gordon Gekko

By Mike Comstock

"...You own the company. That's right, you own the stockholder...

And you are all being royally screwed over by these, these bureaucrats, with their steal their brains and fish their trips, their corporate jets and golden parachutes...

The criminals in corporate America seems to be in survival of the unwell. Well, in any book you either do it right or you get eliminated...
The point is, ladies and gentlemen, that greed – for a better word – is good. Greed is right.

Greed works.

Greed clarifies, cuts through, and captures the essence of the evolutionary spirit.

Greed, in all of its forms – greed for life, for money, for love, knowledge – has marked the progress of mankind.

-Gordon Gekko “Wall Street”

This speech now pre-dates

This is my take on the story about Housing denying graffiti in Lloyd. My personal opinion is that, although houses are institute property, they are still meant to accommodate “student culture.”

Houses should be considered “houses” for students and as long as none of the house residents complain about something that is well inside the house, remains inside the house and does not damage any housing prop

erty or makes them unusable should not concern housing

management.

I would like to think that my culture is not determined by an administrative office or some other body, and the institute has as much responsibility to ensure that as they do to protect their property.

Tanvir Ahamed Bhuyan
UG Freshman

Letters to the Editor

Dear Housing,

I’d like to complain about the extensive amount of deli-

cious food given to students during Thanksgiving.

Seriously, how much fatter do you want me to get?

Generally, my most strenuous form of exercise comes from walking to Lake and back for lunch on the weekends, assuming we’re not tired of C-Store food.

Anyway, the point is, Thanksgiving has the potential to be a four-day period of starvation for Techies who stay on campus because Chandler is closed and it’s too cold to walk to Lake! Instead, I had the opportunity to eat three Caltech Thanksgiving dinners – twice at Avery and once at Lloyd – plus some random leftover desserts in Ruddock.

I’m pretty sure I gained 5 pounds, although I am currently avoiding all scales like the plague.

Next Thanksgiving, I hope to see a complete lack of free, delicious food around campus.

Sincerely,

Sarah Marzen
Tech staff

From the President’s Desk...

Make a Difference. Get Involved.

This term, we have collectively explored issues from the Caltech Bubble to the Caltech Syndrome to what is wrong with ASCTE. Through these diverse issues, a recurring theme has been one of introspection, self-criticism, and subsequent self-improvement.

Looking ahead, I see another important opportunity for such self-improvement.

As we prepare to wrap up this academic term, we anticipate the next year’s officers to make even greater strides.

As most of you know, ASCTE’s fundamental raison d’être is for the improvement of the Caltech undergraduate student experience.

Because of this, we have made a conscious effort to hear and give serious consideration to each of your concerns. So, in a sense, most of you have already been involved in making a difference.

Beyond that, all students can contribute to improving their own student experience directly; all students can contribute to improving their own student experience directly; all students can contribute to improving their own student experience directly; all students can contribute to improving their own student experience directly; all students can contribute to improving their own student experience directly; all students can contribute to improving their own student experience directly; all students can contribute to improving their own student experience directly; all students can contribute to improving their own student experience directly; all students can contribute to improving their own student experience directly; all students can contribute to improving their own student experience directly; all students can contribute to improving their own student experience directly; all students can contribute to improving their own student experience directly; all students can contribute to improving their own student experience directly; 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Olive Harvest 2008 by the numbers...

Data courtesy of Erin White

we recorded **420 volunteers** at our check-in table.
last year, we picked **1,460 pounds** of olives.
this year, we picked about **2,400**.

the grounds department supplemented this crop by picking some trees the
week before the harvest...bringing the total up to **6,300 pounds**.
after pressing all the olives, our harvest yielded **127 gallons** of oil.

The 2008 Olive Harvest Festival Oil is goes on sale Tuesday, December 2nd at the
Bookstore. The oil will be sold for $17.29 on a first-come-first-served basis, with a limit of 2
per customer.

Congratulations to all contest and raffle winners:

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<tr>
<th>Label Design Winner</th>
<th>Raffle Winners*</th>
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<td>Alex Boulgakov</td>
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<td>Alta Fang</td>
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<td>Andrew Price</td>
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*Claim your prize at the Campus Life Office.

Outside the Caltech Bubble

World

At least 183 people were killed in the terrorist attacks in Mumbai, India. The attackers invaded the Taj hotel and
other targets. The terrorists reportedly singled out British
and American tourists. Suspicions that the terrorists were
harbor by Pakistan has strained relations between the two
nations.

Finance

The stock market had a much stronger week this past
week as Citi received government help and the latest reports
indicate higher than expected sales on “Black Friday.”

The Detroit “Big Three” continue to await word from
Congress as to whether they will receive government aid in
the forms of loans.

Politics

Rumors abound of how Barack Obama will appoint Hil-

lary Clinton secretary of state.

Other

The space shuttle Endeavor returned safely to Earth this
week after a long and troubled flight. The flight was plagued
by faulty plumbing and a lost tool bag.

President George W. Bush granted a Presidential pardon
to a man convicted of poisoning Bald Eagles in Missouri.

Two men fatally shot each other after an argument erupted
in Toys ‘R Us during Black Friday sales.

The California Tech

Cooler than you since 1946
Crippling Depression by Tim Wan, Mike Yeh, Ben Lee

Hey, Shen. Yes, Ben?
Are you busy tonight?
Er, well, I'm studying.
I better read that rejection article again.

Comics by xkcd

Useless

\[ \sqrt{\text{?}} \quad \cos \text{?} = ? \]
\[ \frac{d}{dx} \text{?} \quad \left[ \text{?} \right] = ? \]
\[ F\{\text{?}\} = \frac{1}{12\pi} \int \frac{f(t)}{e^t} \, dt = ? \]
My normal approach is useless here.

Bored with the Internet

I feel like I'm wasting my life on the Internet.
Let's walk around the world.

Centrifugal Force

How do you like my centrifugal force, Mister Bond?

You mean centripetal force... not centrifugal force.

A laughable claim, Mister Bond, perpetuated by overzealous teachers of science.

Simply construct Newton's laws in a rotating system, and you will see a centrifugal force term appear as plain as day.

Come now, do you really expect me to do coordinate substitution in my head while strapped to a centrifuge?

No, Mister Bond.
I expect you to die.

The California Tech
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Pasadena, CA 91125