Institute of Electrical and Electronics Engineers

University at Buffalo Student Branch

University at Buffalo
The State University of New York

2013 – 2014 Academic Year

What is IEEE?

The Institute of Electrical and Electronics Engineers (IEEE) is an international organization of technical professionals. Founded in 1963, IEEE is an association dedicated to advancing innovation and technological excellence for the benefit of humanity. As the world's largest technical professional society, it exists to serve those involved in any of the diverse electrical, electronic, and computing fields and related areas of science and technology, especially those that underlie modern civilization.

IEEE Student Branch at the University at Buffalo

The IEEE Student Branch at the University at Buffalo, a sub-branch of the international organization, was formed in 1969. Since then it has provided, and continues to provide, a place for students to apply their engineering knowledge in an out-of-the-classroom environment.

The executive officers of the student branch work diligently to plan projects, events, and activities for student branch members in an effort to broaden students' engineering skills. Students who participate in our projects and events are rewarded with experience and practical applications of coursework. Some of our past activities include equipment demonstrations, guest speaker seminars, and attending conferences. Our projects include designing and constructing a maze-solving MicroMouse robot, building audio speaker circuits, and assembling a 3D printer. Additionally, we have made presentations at the Buffalo Museum of Science and continue to support the Department of Electrical Engineering through community service, both on and off the UB campus.

As part of the Undergraduate Student Association at UB, we receive an annual budget to fund our activities. Unfortunately, given the number of projects that our club has a desire to pursue and the depth with which these projects are executed, the funds we receive do not cover all of the club's expenses. Last year, successful fundraising enabled a few members to attend the IEEE Region 1 Student Conference at the Massachusetts Institute of Technology and allowed a few new projects to come to fruition. This year, we anticipate having a larger and stronger membership than in the past, offering us the opportunity to participate in more projects, further engage the Buffalo community, and more greatly impact the lives of UB's engineering students. Our budget is the only factor that limits our activities, projects, and events and the audience that we are able to reach.

We are asking for your support.

Sponsorship - Benefits for You

There are several benefits of becoming a sponsor of the UB IEEE Student Branch. They include, but are not limited to:

- Establishing connections with UB students, faculty, and on-campus organizations
- Tax deductible donations
- Advertisement space on club projects, banners, and flyers

Sponsorship Opportunities

Your generous support gives UB engineering students the opportunity to complete projects, travel to competitions and conferences, engage hundreds of students on the UB campus, and prepare rising engineers for success outside of college.

There are many different ways to support the University at Buffalo IEEE Student Branch. In the past, contributions have included monetary donations, electronics parts and materials, and guest speakers. This year, we are seeking similar types of donations from community partners, local organizations, and national companies. Below you will find various sponsorship levels that we have assembled as a guide:

Sponsorship Level	Sponsor Benefits	Amount
Platinum	In Addition to Gold Level: • Company/Plant Tour Opportunity • Company feature on website	$5000
Gold	In Addition to Silver Level: • Display company banners at events • Recruiting material distribution • Access to member résumés	$2000
Silver	In Addition to Bronze Level: • Logo on sponsored project • Guest speaker invitation	$1000
Bronze	• Logo on website • Logo on t-shirts • Logo on event advertisements	$500

Interested in Becoming a Sponsor?

If you are interested in becoming a sponsor, contact us at ieee@buffalo.edu or submit our sponsorship form at ieee.eng.buffalo.edu/sponsorship.

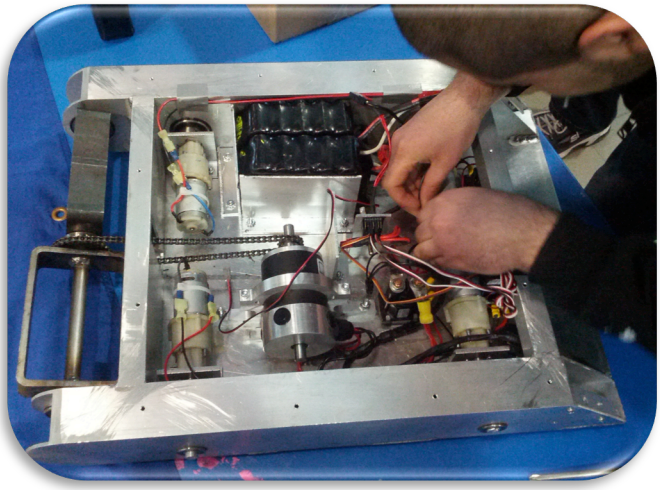
Funded Projects and Events

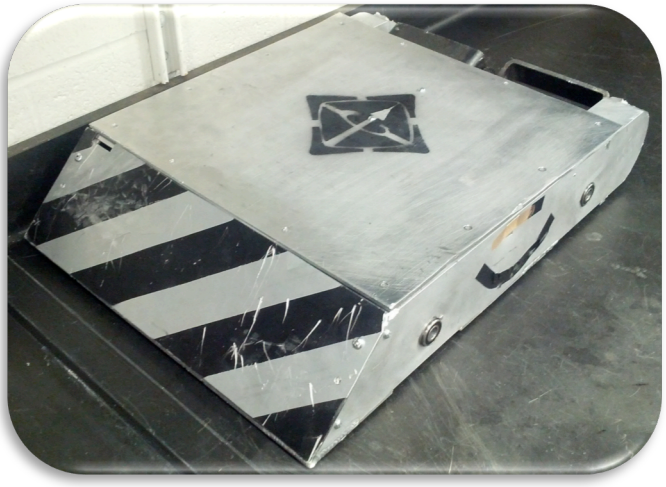
BattleBot Competition

Project Budget: $1000

The Engineering Club Council hosts an annual BattleBot competition as the main event of Engineering Week. All of the engineering clubs are invited to participate in the tournament. The goal is to design and build a remote controlled robot to fight against other robots, one versus one. Development includes creating CAD models, determining materials to utilize, prototyping weapons and drive systems, assembling, evaluating, and redesigning the robot as necessary. The project requires both electric and mechanical skill sets.

The competition rules limit the project budget to $500 per robot. Due to the high demand from our members, we will be designing and building two robots for the 2014 competition. This will allow us to have a greater number of people involved with the project than in past years, and will require enough work so that every interested student may actively participate.





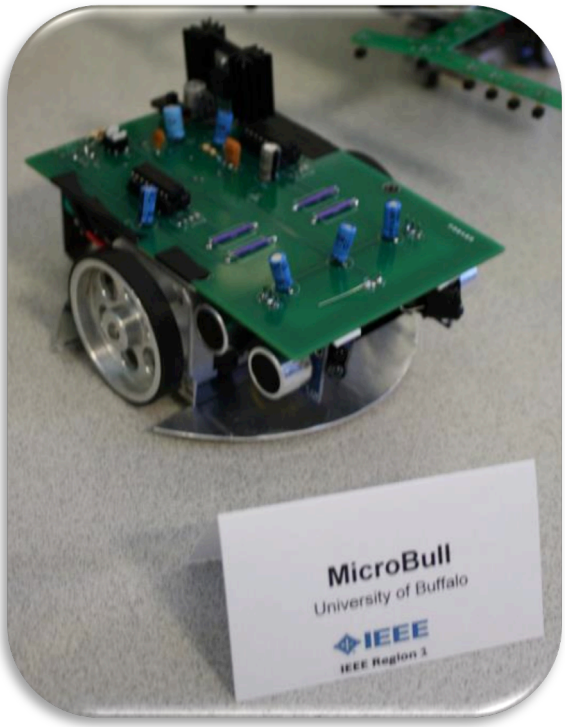
LAN Party

Event Budget: $3000

The LAN Party is our largest event as a club and attracts approximately 100 students. A LAN Party is when a number of gamers get together in one location to play computer games against each other on a Local Area Network. Our spring 2013 event took place over 12 hours and had over 80 participants. For the 2013 – 2014 academic year, we will be hosting both fall and spring events and are hoping to see over 100 participants at both events. This event is a great way for students to socialize and unwind from coursework. The event is also a great recruiting tool for the club. Students who may not necessarily know what our club does have an opportunity to talk to club members about our other projects and how they can participate in those as well. In addition to providing our participants with food throughout the entire event, we have periodic giveaways and prizes for each person on a winning team. This event is possible because of the generous contributions of local businesses and organizations.

MicroMouse Regional Competition

Project Budget: $500



The MicroMouse is a small autonomous robot that is designed to solve a 16 by 16 grid square maze in the fastest time possible. The project requires CAD design, PCB circuit design, prototyping, and software development. Last year, our mouse placed fourth in the regional competition. Our design included custom software and a custom designed PCB with an Atmel microprocessor at its core. With the experienced we gained at the competition, we are excited about our mouse for the 2014 competition. The MicroMouse Competition is held at the IEEE Region 1 Student Conference that took place at the Massachusetts Institute of Technology this past year.

Alternative Electric Go-Kart

Project Budget: $6000

This is a new project that will be started in fall 2013. The goal for the 2013 to 2014 year is to obtain and build a simplified all electric go-kart. We also are aiming to mount solar panels on the go-kart to create self-sustaining power supply that will charge up a battery bank for continued use. We plan on designing an embedded system with an LCD display implementing speed control, efficiency, charging, power capacity, and remaining mileage. In the following years, this project could entail electronics such as GPS, Radar and proximity sensors. This project is widely applicable to all types of engineers, and will be a very valuable experience for those who participate. This project is budgeted to $3,000 in the fall semester to reach a working all electric go-kart and an additional $3,000 in the spring semester to implement solar power and the embedded control system. This will also build club membership by appealing to students who are not currently involved in our IEEE Branch.

IEEE Region 1 Student Conference
Conference Budget: $1000

The annual Student Conference hosted by IEEE Region 1 allows students from all over the northeast to meet and network. During this weekend conference the MicroMouse competition, Student Paper Competition, Ethics Contest, and t-shirt design contest are hosted. As part of the conference, the Region 1 Director of IEEE and the President and CEO of IEEE give keynote speeches. Attendance at the conference is a privilege for our members and we are limited each year by our remaining budget, as this event is typically held in mid-April.

Engineering Week 2014
Event Budget: $250
Engineering Week is a nationally recognized week that celebrates engineering. During this week, the Engineering Club Council hosts a number of events and competitions to show off the engineering clubs activities, projects, achievements, and capabilities. Companies are invited to visit to see the clubs' achievements, as well as to view and judge the BattleBot Competition. We plan to host five events in the field of electrical engineering, such as circuit building competitions, soldering clinics, and a PSpice tutorial.

NATCAR National Competition

Project Budget: $250

The NATCAR is a line following autonomous robot that tracks a white line from the beginning to the end of a loop, as fast as time possible. Pursuing his project requires extensive use of skills learned from coursework, ranging from computer programming to circuit design. There are competitions for the robot across the United States. This year, our goal is to attend the competition at Penn State in the spring semester.

Guest Speakers

Event Budget: $250

Each year, we invite guest speakers from UB engineering, IEEE, and industry to speak to current UB students. We enjoy hosting these events because they give future engineers the opportunity to learn what is going on outside of the classroom. In doing so, students can better prepare themselves for a career and target their interests. Additionally, students also learn about tools available to them, such as the IEEE database of papers online to use for projects and senior design courses.

Non-Funded Projects and Events

Company Tours and Events

Each year, we organize a company or plant tour, or allow a company to come in and talk to our club membership. This is a great exposure for students to see what career opportunities are available to them.

University Open Houses and Departmental Events

IEEE is very active at the University at Buffalo. We participate in the various open house opportunities run by the Admissions Department to expose both prospective and accepted students to IEEE, electrical engineering, and the university. We also take part in the Undergraduate Student Association club fairs that allow current students to see what we are actively working on and how to get involved. We also represent and assist the Electrical Engineering Department in their open houses for high school students, prospective and accepted students, and current classmates. We display our projects and talk to the various guests about what we do and they opportunities available to them. We support the faculty and staff that organize these events with logistics.

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