



MONKEY BUSINESS



News of the Lynbrook High School Robotics "Funky Monkeys," FIRST® Team 846

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Upcoming Events

MadTown Throwdown: Nov 9th-10th

Weekly Events

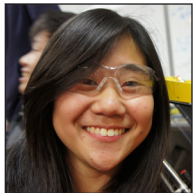
- Tuesdays - Team Meetings
- Wednesdays - CAD Workshops
- Thursdays - Machining Workshops
 - Electrical Workshops
 - Topics in Robotics Lecture Series
- Fridays - Software Workshops
- Saturdays - Animation Workshops

In this Issue

- 1 Presidents' Welcome
- 2 Silicon Valley and Boston Regional
- 3 Project Summer
- 4 Senior Good-Byes
- Mentor Profile: Fernando Reyes

Senior Good-Byes

Our amazing seniors leave some words of wisdom.



People always ask me what the number 846 stands for, and I always have a hard time responding. Should I say that it's just a number, given by FIRST Robotics? Or should I tell them the whole story? I usually respond with the former in the interest of time, but as my parting message to the team, here is the whole story.

846 is part of my identity. It represents my initiative, leadership, and dedication. It represents my determination in the midst of build season, my excitement in becoming Co-President. It is my belief that I can make a difference.

As a freshman, I did not see myself as a robotics member, nor did I expect robotics to become such a large part of who I am. Through three years of build seasons and competitions, I developed skills that I now use on a daily basis; through my work in

see SENIOR GOOD-BYES, Page 4

Presidents' Welcome



Dear FIRST Team 846,

Welcome to our team! You've decided to join us at a great time! This past year, we've grown in almost all aspects of our team. We've gone farther in competition, won new awards, and have more members and mentors than ever before. The 2013 season was one of our most successful ones yet. I've never been more proud to call myself a Funky Monkey!

As we look towards the new season, the future looks promising. We're well equipped with a capable workshop, dedicated mentors, and over a hundred members. But, in order for us to continue to grow, we're going to need your help. I firmly believe that each of you has something that you can contribute to our team, and for us to be successful, we need to harness our collective skills and talents. I'm sure you've heard the saying, "knowledge is power", and in the context of our team, this is definitely true. The more we know, the more successful we'll be.

Now, where does this knowledge come from? On our team, you'll never find a textbook or a set curriculum. Everything that you learn is the result of a member or mentor sharing what they know with you. This year, I encourage each of you to do the same: teach someone something! If we all make an effort to do so, we as a team will be stronger than each of us as individuals could ever hope to be.

I look forward to meeting each of you and helping you figure out how you fit into our diverse team. You're in for a great year ahead!

Anurag Makineni

Lynbrook Robotics Co-President 2013-2014

To our new members:

Before I give you the uplifting message expected of the "Presidents' Welcomes" section of our newsletter, allow me to proffer you a quote said by a wise man as he contemplated the creation of a meaningful philosophical masterpiece: "Hoping does not get work done, but the act of doing does!"

Remember this as you enter Lynbrook Robotics this year. Wanting to help out, learn, and succeed are all wonderful things, but they take you only so far. The most important part of getting something great out of your experience in Lynbrook Robotics is deciding to do something about making that dream a reality. Show up at meetings and work sessions, ask for help, learn at our training workshops, do artwork for our shirts and robot, help write this newsletter, take advantage of all the opportunities our team provides.

It's not as if you are alone in all of this; our officers and veteran members are here to help, to facilitate your learning and involvement. We know that you will be in our position someday, and will be responsible for continuing to maintain our amazing program and training the freshmen of your generation. We want to help you as much as you want to learn and be a member of our remarkable team.

I highly encourage all of you to swing by Room 612 to see what is happening, say "hello," and ask if there is anything for you to do. I promise you that if you do this, you will not be disappointed. I wasn't.

Miles Chan

Lynbrook Robotics Co-President 2013-2014

Funky Monkeys Take Home Imagery Award

Julia Ma (sophomore)

San José State University, April 6, 2013: For the first time in its history, Lynbrook Robotics FIRST Team 846 was awarded the Imagery Award, at the Silicon Valley Regional competition. This was a major first for the team, because with this award the judges recognized the Funky Monkeys for their attention to the aesthetics and visual appeal of their robot and team as a whole.

The Imagery Award is bestowed in honor of Jack Kamen, the inspiringly artistic and creative father of Dean Kamen (co-founder of FIRST). As Diane Wang (2012-2013 Co-President) put it, “Winning the Imagery Award shows that above all of our technical achievements, our team is well-rounded and encourages development of all talents that our members have.”

This has been part of an ongoing effort over the last several years to both broaden the scope of the club’s activities, as well as establish a stronger team image in the

process. It has taken a lot of urging on the part of the team’s mentors, in particular the head coach David “Mr. G” Giandomenico. He cites, “It is an uphill battle all the time. The students are often struggling with what looks cool, versus building a strong image.”

In 2009, the Funky Monkeys made the switch to red polyester jerseys with “846” in large print, unifying the team as a sea of shiny red. In 2010, the team started a line of bright yellow team buttons, with the minimalist monkey logo honed by Diane Wang, to wear and share with other teams.

In 2012, Eva Lomazov (2013-2014 Event Manager) and Diane Wang created a yellow war banner with the same monkey logo on it to brandish at competitions. And the robots themselves bear the same characteristic yellow, becoming a distinctive colorful blur as they speed around the playing field. Altogether, these and other efforts have so-



A change of spirit: The Funky Monkeys from 2008 (top); the team at SVR 2013, decked out in red (bottom).

lidified an identity for the team that is bold red and yellow.

In recognition of their success, the team was honored to bring home the 2013 SVR Imagery Award. It is now displayed prominently in the team’s on-campus workshop, where it stands as a reminder of the significant impact that every member can have.



Owen Li, Eric Yeh, Rahul Iyer, and Megan Lau in front of the Stata Center at MIT.

Funky Monkeys versus Boston

Michael Chang (senior), Matt Wang (junior)

Going to a different state for a regional competition meant many new experiences for the Funky Monkeys. This year, the team went to Boston Massachusetts, where they worked against snow, incomplete robots, and a fast-paced public transportation

system unforgiving of lost backpacks.

For starters, getting around Boston with a group of forty people was not an easy task. Just getting to and from the Agganis Arena at Boston University required cramming everyone onto the T (the Massachusetts Bay subway system), and sending all the equipment separately in taxis. Mr. G and Mr. Chua each got a transit

card to help swipe members through. It was quite a sight to see: a mass of students in red all proceeding single file through the turnstile, and piling into the subway car like a school of giant red sardines.

However, the trials had only just begun. Throughout the three-day regional, the team’s pit crew worked furiously to get the robot, the “Ultimate Funky Object”, ready to go on the playing field. The robot had been shipped in pieces, so they spent the first half day just scrambling to put it all to-

gether, barely pausing to even eat what little they could scavenge. After the long day of frantic assembly and last minute changes, the pit crew was already completely exhausted.

The team was then faced with the bitter cold of March in New England between them and the team dinner. Shivering in the frigid air, some were so concentrated on just finding a warm building that they almost did not notice when the snow began to fall. But as soon as the snow lined the ground, snowballs started to fly. Everyone was full of energy and excitement again. In a rare moment away from home, the team felt at ease.

With newfound energy and confidence, the team stepped up their performance, and made it all the way to the final elimination rounds for the first time in the team’s history. As Anurag Makineni (2013-2014 Co-President) put it, “It was amazing. For the team’s entire history, we had never made it to the finals of a regional before. It was such an invigorating feeling, to know that we had broken a new record, moving the achievements of our team one step forward.”

Project: Summer

Funky Monkeys take on summer projects and internships

Electric Skateboard

Brent Yi (*junior*)

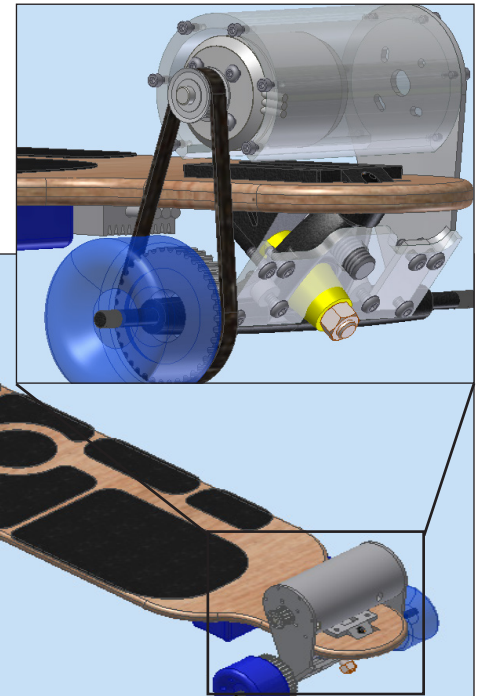


At the end of last year, Alric Siu, one of our former co-presidents, came back to Lynbrook and visited our team. He brought with him a project he had built in college: a motorized electric skateboard. He started with a tiny 22-inch plastic skateboard, and powered one of the wheels with a brushless motor made for use on RC airplanes, creating a tiny electric vehicle he could not only effortlessly ride and maneuver, but also easily fit into his backpack. It was amazing.

Inspired by Alric's creation, Eric and I went off to create our own electric skateboard. I picked out the electronics: a 270Kv brushless motor, a speed controller rated for 200 amps, a gigantic six-cell lithium polymer battery, and a wireless "nunchuk" game controller made for the Nintendo Wii. Eric designed the motor mount, a process that took more work than the electronics did. His efforts resulted in a sleek piece of aluminum which kept the motor above the board rather than below it as Alric's was, protecting the motor from damage and allowing us to keep the board as close to the ground as possible, lowering our center of gravity and thus increasing stability.

After a summer's worth of work, mess-ups, unavailability, and painfully slow ship-

ping speeds, we managed to get the board working in time to demonstrate its abilities at the first team meeting. Of course it is not finished yet; many changes will have to be made to make it more rigid and reliable. But even so, I am proud of the work we have done so far, and I am glad that the skills I have learned in robotics can be applied in such an interesting way.



The custom motor mount (top) designed and machined by Eric Yeh, for the electric skateboard (bottom).

Keeping it Positive

Eva Lomazov (*senior*)



This summer, I spent a lot of time exercising my public relations skills. I interned at SecretBuilders, a company that provides children with online picture-search games based on books. My primary focus, as part of their Community Management, included talking to kids online, and removing hackers from the website. In addition, I threw virtual parties promoting new games or places in the virtual world, and giving out merchandise as gifts.

This internship taught me a valuable robotics and all-around life skill: the art of dealing with people, especially those who do not show respect. One example happened quite recently, at our team's annual Monkey Walk. Every year, our mascot, the monkey, walks around the school passing out flyers encouraging people to join our team. Some people, instead of simply refusing fliers, accept them and rip them up and toss them on the floor. Yet as rude as that is, it does not give our team permission to confront them about it. Instead, we smile, say thank you, and move on.

The people skills I learned, I hope to share with the rest of the team. The truth is, people remember what you say, and will judge you for it. So keep your language clean and fitting the situation. When talking to others, make sure your tone fits the conversation. Always keep it clean and respectful, no matter how aggravated you get.

Helping the Blind

Maitreyee Joshi (*senior*)



This summer, I set out to help the blind navigate through their environments independently. I decided that I could accomplish this by creating a mobile app that simulates the sounds that one hears while walking in environments to allow blind individuals to navigate through virtual maps of indoor locations. By allowing the blind to navigate through virtual maps, the app would help them build solid cognitive spatial models of the indoor spaces that were invisible to them, and thus allow them to navigate through these spaces more independently.

I first became interested in assistive technology for the blind when I began volunteering at the AYSO Very Important Players program, where I worked with physically

and mentally disabled children. After working with these children for several months, I realized the amount of troubles these poor children and their families had to go through daily, and I decided I wanted to help them.

After developing and coding the app for the next few months, I had a basic prototype that I was ready to test out with my first prototype tester: the Accessible Technology instructor at the Silicon Valley Blind Center. Though I was extremely nervous for this meeting, the prototype actually turned out to be quite successful. He was able to memorize and recite the entire layout of the building after using the app only twice!

Inspired and excited by this experience, I hope to keep developing and improving this app. I am looking further into developing the indoor mapping techniques that the app uses, and potentially partnering with larger companies who have expressed interest in it. For more information on the details of my project, please visit my website:

www.maitreyeejoshi.com

Senior Good-Byes

Continued from Page 1

aesthetics, machining, grants, management, and outreach, I've learned the importance of initiative, dedication, and open-mindedness. For me, 846 was the blank slate that offered unique opportunities for me to expand my knowledge and my skills, and I hope that every member that decides to join this team tries to make the most out of what the team has to offer.

As I leave the team, I look forward to watching 846 grow. It has been a long road, and three years may seem like a long time, but it is remarkable how quickly the end of my robotics career has come. Looking back, I'm proud that I decided to step into my first robotics meeting, that I kept coming back, and that I gave it my all to make my difference. And, most importantly, I'm proud that I completed it all with a smile.

—Diane Wang



My experience in robotics has always been fairly quiet. I've never been to an out-of-state competition or been able to comprehend a design meeting. Robotics,

for me, has never really been about the robot. It's the people that matter to me; they're why I stayed and why this program can make me smile.

Frankly, I used to wonder if joining robotics had been the right choice. Maybe I could have become more successful in a different club that catered directly to my specific skill-set. But I've come to see that every struggle that robotics forced me through was, in one way or another, essential. Robotics doesn't shelter you. It's the real world. It's challenging. It throws obstacles at you early so, as Pixar animators like to say, you fail fast to succeed later.

Everyone on the team has potential for greatness—everyone just has their own individual obstacles in the way. Work together, talk to each other, don't be afraid to put your ideas out there. Judgment may be inevitable, but you're surrounded by people who think and feel just like you do.

On that note, I shall leave you with another enlightening piece of information. I may be a college freshman, but that doesn't entail anything. Right now, my entire childhood education has come to a close but I still feel like the fourth grader who harvested flowers to make garlands for the fairy queen. Once you come to the end, it feels like you just began. So make the most out of what you've got.

—Michelle Chang



It has been quite a year, in terms of both the challenges and the progress. Not only have we grown to a record number of members, but we have also involved a record number of said members. We have expanded what our members can do during and outside of build season. As we grow we have had to change how we do things and while we did not do everything right, we will still learn from our mistakes and do better next year. Do not let the hiccups that happen as we evolve discourage you; instead, use them as a chance to learn and make things better. In particular, make sure that you enjoy what you do. Af-

Mentor Profile: Fernando Reyes

Nikita Seth (*sophomore*)

Introduce yourself!

My name is Fernando Reyes and I am a mentor for Team 846, the Funky Monkeys. I joined in 2007, and have been with the team through 7 competition seasons now.

What is your occupation?

I am a machinist. For the last 8 years, I have been a prototype R&D machinist for startup medical device companies. In total, I have about 30 years of experience machining that I share with the team.

What sort of things do you help with?

Now that the team has a machine shop of its own, I get the job of taking care of it. But the best part is that I get to pass on some of my own knowledge to students who are willing and eager to learn. I teach the students the art and skill of machining parts, training them how to use the different machinery—the mill, the lathe—and how to use them safely and responsibly. I also help the students set up big jobs, so they do not get overwhelmed or lost halfway through making a part.

What is it like working with the students?

I am constantly astounded by the ambition of the students, and how each one is so involved. I still marvel at watching them come up with solutions to the game challenges, and then design and build a robot that competes very well. It makes me want to come back and witness the growth and development of the team. They are a lot more mature than most high schoolers, and I feel that makes them so capable.

ter all, this is a high school robotics team, so make sure you choose to do what you enjoy and feel passionate about, and you'll always do a better job. Be proud of what you've done, look forward, and always try to improve.

When I joined the team as a freshman, I was planning on working exclusively on the software, but to date I have worked on everything from software to leadership. Robotics has given me a chance to expand my horizons and do cool stuff, making it an unforgettable experience. Make sure you make the most of the opportunities we have available and try to graduate with Lynbrook Robotics being a better team than it was when you were a freshman.

—Brian Axelrod



Fernando, (second from right) directs the assembly of the lathe.

How did you get involved with the team?

A coworker of mine asked me if I was interested in machining parts for a high school robotics team. I had always wanted to get into robotics—it fascinates me how you can start with a box of parts and end up making a fully functioning robot—so I said yes, machined a few parts, and have been a part of the team ever since. The opportunity to make things for pleasure and help a robotics team at the same time was too good to pass up.

How has the team changed since you have been on it?

The team has grown a lot, and I have enjoyed watching it. When I joined the team seven years ago, it was not half as big, and a lot of the project was still being handled by mentors. But now the students are really taking charge. They are even exploring more advanced technologies that I end up learning in the process, and that helps me a lot, too.

What do you enjoy about being on the team?

I really like teaching the students. It is not something that I typically do at work, and it allows me to look at my work in a different perspective. It also allows me to use what I know and have learned over the years in a way that it is creative and beneficial to the team. I enjoy the challenges it poses, and it keeps me coming back every year.