

Dean's List Submission: Nathaniel Milani (Winner GTRW 2014)

Within the *FIRST* community, there are many students that are great, but only a select few can be called incredible, passionate and inspiring all in one description. On team 1241, THEORY6, students and mentors alike feel that Nathaniel Milani demonstrates those characteristics not only within the walls of the school but in the community as well.

Nathaniel has been part of our team for four years. Now a senior, he is also our team captain leading both design and manufacturing sections. Many of us know him for his impressive machining skills gained by tinkering in the wood shop in his house but soon enough he was able to quickly learn design principles and CAD software. This past year he showcased his creative ability by designing a two speed swerve drive system as part of a summer project. Even experienced mentors were in awe when we saw the design. However, Nathaniel's passion for engineering only motivates him to spread his knowledge to everyone around him, young and old.

Teaching at the local library, Nathaniel was able to develop fun and exciting robotics classes as they learned about mechanical systems, motors, sensors, and programming. He designed each lesson to be simple enough to understand accompanied by interactive challenges, such as building LEGO catapults to launch pingpong balls while learning about levers. He is able to excite students aged 5 to 12 about science and technology while learning complex concepts. He also takes time to volunteer at FLL tournaments as referee while coaching several FLL teams throughout the season. His fun approach and enthusiasm allows each student to enjoy their experience at events or workshops, and they may not realize that they are being taught by Nathaniel. Even at tournaments, if his favourite songs are playing, he does not hold back on dance moves, bringing smiles to everyone with his enthusiasm. Spreading the message of *FIRST* does not stop here. Through presentations at school events, education board members, and community centers he is constantly spreading the knowledge and value of the robotics program.

Nathaniel's level of inspiration is uncanny where students strive to be just like him. After winning the FLL Youth Mentor Award last year at a local regional, one FLL student that he coached was able to win the award only a year later. Many team members on 1241 also look to Nathaniel for guidance and knowledge, even with academics. Like a true leader, he values everyone's opinion as if they were his own. By understanding his teammate's interests, he allocates tasks that he knows they will enjoy. He takes it a step further by explaining why the task is important, and his level of approachability allows students to feel comfortable and honest. He is constantly encouraging students to work together, but also to step out of their comfort zone and try something new. When differences arise between students, he is always there to eliminate the tension with his calm demeanour. His witty jokes such as, "If you can lean, you can clean!" make even tedious tasks such as shop cleanup more fun.

This season, Nathaniel was able to significantly improve the organization of the mechanical team by introducing a new streamline manufacturing process. By creating master BOM list with every robot part, allocated storage zones for machined components, facilitating industry technical drawing practices, manufacturing time for any assembly was significantly reduced. By producing detailed schedules, he is able to keep track of all members of the team, prioritizing tasks to ensure everything is completed on time. Furthermore, his daily updates for progress allows mentors, students and sponsors to be aware of the progress throughout the season.

Nathaniel exemplifies the ideal characteristics of *FIRST* more than anyone on the team. His passion, enthusiasm, and ability to bring fun to *FIRST* experiences are unsurpassed. His friends call him Danté, and he is a true role model for all members of Team 1241.