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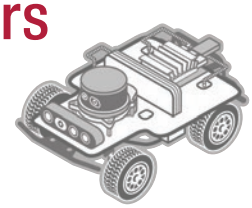
MIT Beaver Works Summer Institute

Fall 2021 Outreach Program – 7 Courses

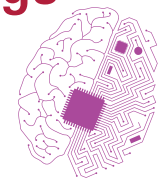


Girls Who Program Autonomous Cars

Girls Who Hack and Code

Girls Who Design, Build and Fly Model Aircraft

Girls Who Want to Learn Many Interesting Things



Girls Who Program Cognitive Assistants

Girls Who Program Autonomous Cars – BWSI-Pacific

Kwaj Mini-RACECAR Middle School
(Kwajalein Atoll, Marshall Islands)

No Prior Experience Required!

WHO:	High School 11th Grade Female Students
WHEN:	Saturdays 11am-2pm (EST): October 16, 23, 30, November 6,13, 20, December 4, 11, 2021
WHERE:	Virtually, through Zoom!
REGISTER:	https://mit-bwsi.formstack.com/forms/bwsi_fall2021

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Girls Who Program Autonomous Cars

A BWSI Mini-Racecar Crash Course

No Prior Experience Required!

Who: Female High School Juniors interested learning about code and robots! Beginners encouraged!
When: Saturdays 11am to 2pm (EST) – 10/16, 10/23, 10/30, 11/6, 11/13, 11/20, 12/4, 12/11, 2021
Where: Virtually, through Zoom!
Registration Form: https://mit-bwsi.formstack.com/forms/bwsi_fall2021

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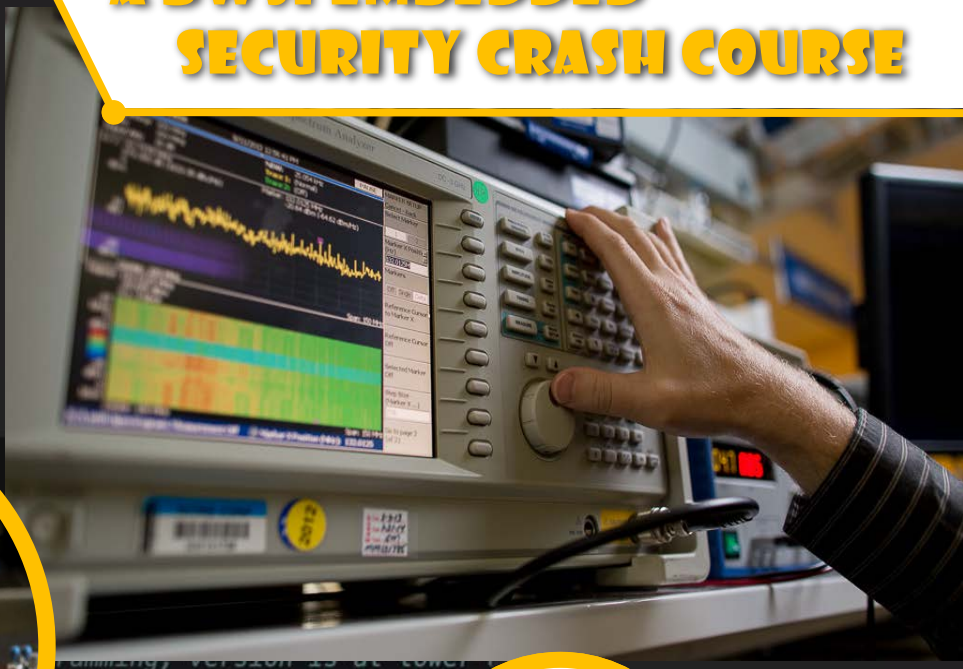
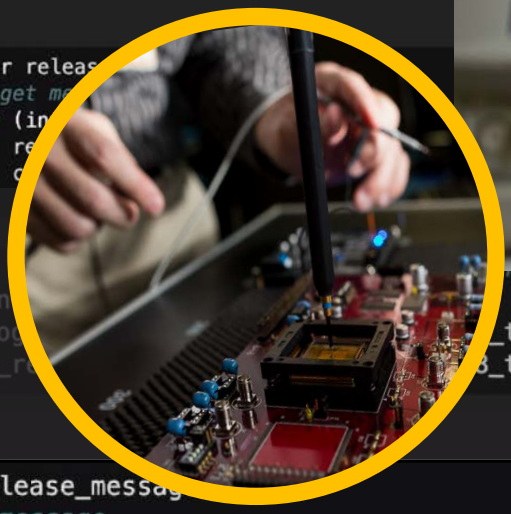
Girls who Hack Code!

A BWSI Embedded Security Crash Course

MITRE Project

No Cost!





```
char release_message
// get message
for (int i = 0; i < release_message_length; i++) {
    release_message[i] = uart_read(UART1, BLOCKING, &read);
    comboMetadata[54+i] = release_message[i];
}
```

```
// Create 32 bit word for flash programming, version is at lower
uint32_t metadata = ((size & 0xFFFF) << 16) | (ver
program_flash(METADATA_BASE, (uint8_t*)(&metadata), 4);
fw_release_message_address = (uint8_t *) (FW_BASE + size);
```

Learn To Code Python!

No Prior Experience Required!

Who: Female High School Juniors interested in learning about code and hacking!
Beginners encouraged!

When: Saturdays 11am-2pm (EST) - 10/16, 10/23, 10/30, 11/6, 11/13, 11/20, 12/4, 12/11, 2021

Where: Virtually, through Zoom!

Registration Form: https://mit-bwsi.formstack.com/forms/bwsi_fall2021

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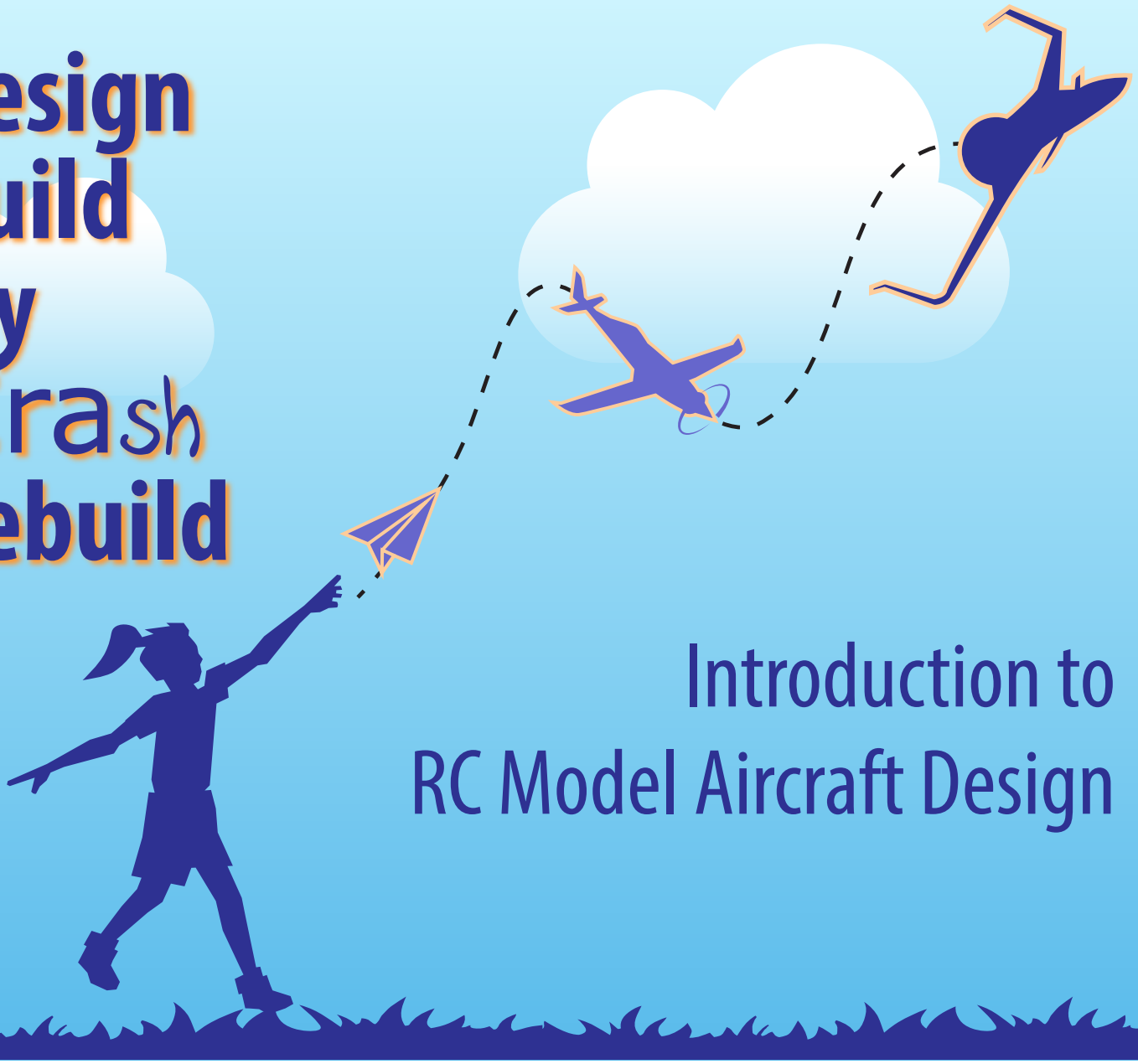
Girls Who Design, Build and Fly Model Aircraft — A BWSI Crash Course.

Design
Build
Fly
Crash
Rebuild



Introduction to RC Model Aircraft Design

No Prior Experience Required!

Who: Female High School Juniors interested in Aerospace and Aeronautics.

When: Saturdays 11am to 2pm (EST) – 10/16, 10/23, 10/30, 11/6, 11/13, 11/20, 12/4, 12/11, 2021

Where: Virtually, through Zoom!

Registration Form: https://mit-bwsi.formstack.com/forms/bwsi_fall2021

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Girls who want to learn Many Interesting Things:

From Transistors to Data Science

A BWSI Medlytics intro course by Christian Cardozo

An early introduction to the technologies that shape our world, with applications to medical data analytics!

Computer Architecture • Python
Machine Learning • Computer Vision

No prerequisites.
No pressure.

No Prior Experience Required!

Who: Female High School Juniors interested learning about computers, coding and medical data analytics. Beginners Encouraged!

When: Saturdays 11am to 2pm (EST) – 10/16, 10/23, 10/30, 11/6, 11/13, 11/20, 12/4, 12/11, 2021

Where: Virtually, through Zoom!

Registration Form: https://mit-bwsi.formstack.com/forms/bwsi_fall2021

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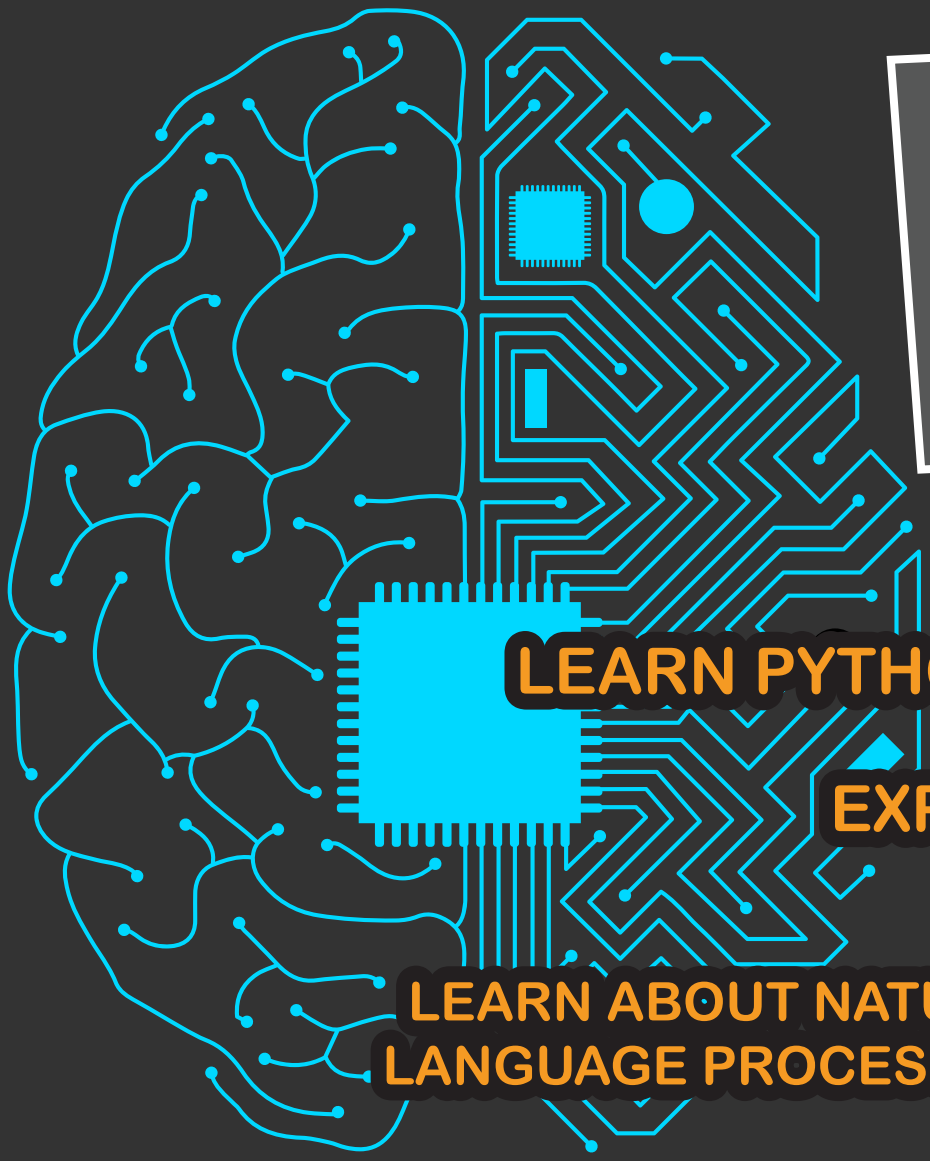
Girls who program cognitive assistants! — a BWSI crash course



An introduction to artificial intelligence through building an autonomous cognitive assistant!

LEARN PYTHON!

EXPLORE MACHINE LEARNING!

LEARN ABOUT NATURAL LANGUAGE PROCESSING!

No Prior Experience Required!

Who: Female High School Juniors interested learning about code and artificial intelligence! Beginners Encouraged!

When: Saturdays 11am to 2pm (EST) – 10/16, 10/23, 10/30, 11/6, 11/13, 11/20, 12/4, 12/11, 2021

Where: Virtually, through Zoom!

Registration Form: https://mit-bwsi.formstack.com/forms/bwsi_fall2021

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Girls Who Program Autonomous Cars

A BWSI Mini-Racecar Crash Course

No Prior Experience Required!

Who: Female High School Juniors interested learning about code and robots! Beginners encouraged!
When: Saturdays 1pm to 4pm (HST) – 10/16, 10/23, 10/30, 11/6, 11/13, 11/20, 12/4, 12/11, 2021
Where: Virtually, through Zoom!
Registration Form: https://mit-bwsi.formstack.com/forms/bwsi_student_kwaj_fall_application_2021

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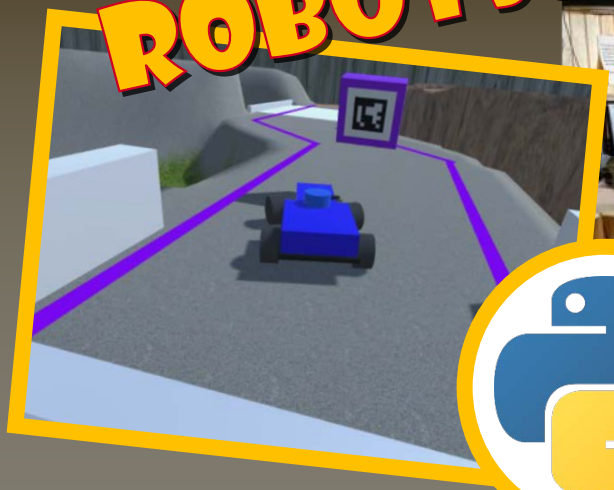
Kwaj Mini-racecar Middle School

A BWSI Mini-racecar Crash Course

Racing Robots!



Learn to code Python!

No hardware required!

No Prior Experience Required!

Who: Kwaj students in grades 7 – 9. Beginners encouraged!
When: TBD, one afternoon/evening per week beginning late October
Where: Namo Weto Youth Center
Registration Form: ***Registration form available at Namo Weto Youth Center***

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