

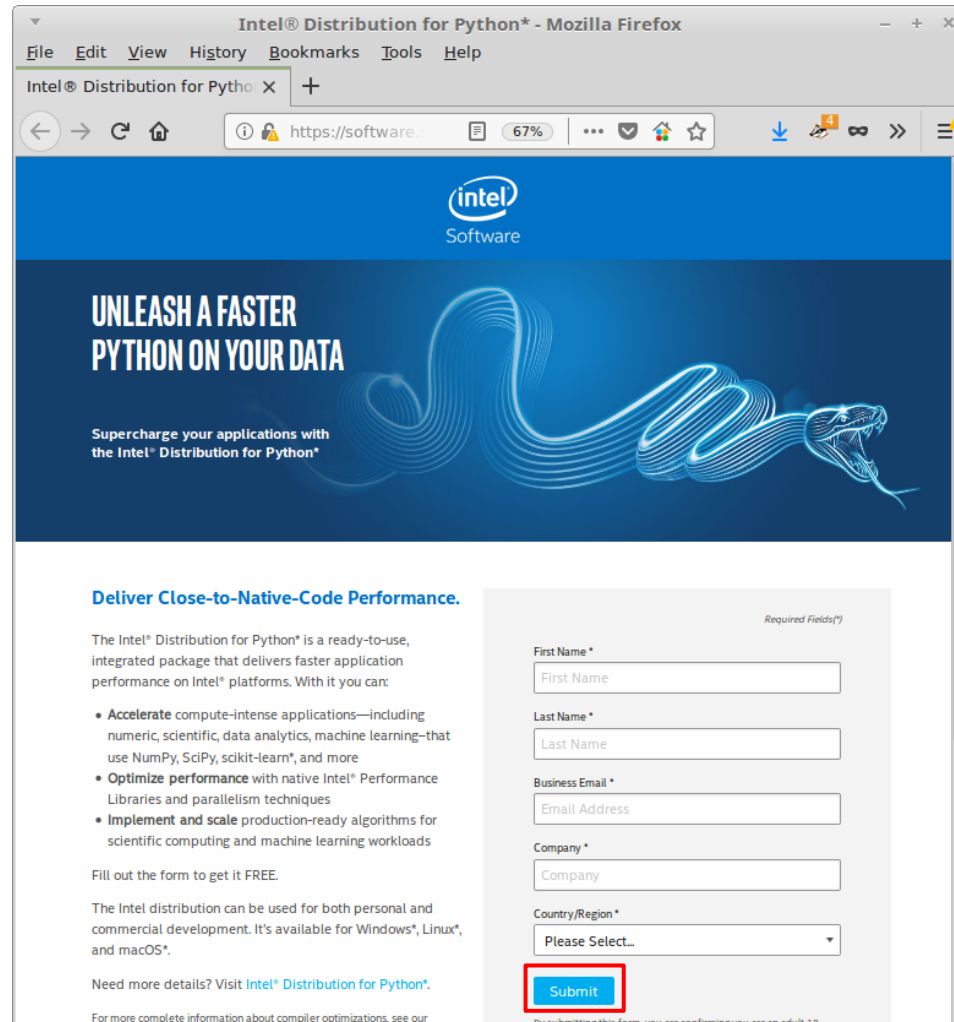
Intel Python vs Linux Mint Python

who is the fastest of them all?

Background

- Speeding up Python, using:
 - Intel Math Kernel Library (Intel MKL) for BLAS and LAPACK
 - Intel MKL vector math library for universal functions (uMath)
 - Intel Data Analytics Acceleration Library (Intel DAAL) for machine learning and data analytics
 - Integration with Intel Advanced Vector Extensions (Intel AVX), a feature of the latest Intel Xeon processors

Download



The screenshot shows a Mozilla Firefox browser window with the title "Intel® Distribution for Python* - Mozilla Firefox". The address bar shows the URL "https://software.seek.intel.com/python-distribution". The page features the Intel Software logo at the top. Below the logo, there is a large blue banner with the text "UNLEASH A FASTER PYTHON ON YOUR DATA" and a glowing blue snake graphic. Underneath the banner, the text reads "Supercharge your applications with the Intel® Distribution for Python®".

The main content area is divided into two columns. The left column contains the heading "Deliver Close-to-Native-Code Performance." followed by a paragraph: "The Intel® Distribution for Python® is a ready-to-use, integrated package that delivers faster application performance on Intel® platforms. With it you can:". Below this paragraph is a bulleted list:

- **Accelerate** compute-intensive applications—including numeric, scientific, data analytics, machine learning—that use NumPy, SciPy, scikit-learn®, and more
- **Optimize performance** with native Intel® Performance Libraries and parallelism techniques
- **Implement and scale** production-ready algorithms for scientific computing and machine learning workloads

Below the list, it says "Fill out the form to get it FREE." and "The Intel distribution can be used for both personal and commercial development. It's available for Windows®, Linux®, and macOS®." At the bottom of the left column, it says "Need more details? Visit [Intel® Distribution for Python®](#)." and "For more complete information about compiler optimizations, see our [Intel® Compiler Optimization Guide](#)."

The right column contains a registration form with the heading "Required Fields(*)". The form includes the following fields:

- First Name * (text input)
- Last Name * (text input)
- Business Email * (text input)
- Company * (text input)
- Country/Region * (dropdown menu with "Please Select..." as the selected option)
- Submit (button, highlighted with a red rectangle)

At the bottom of the form, there is a small disclaimer: "By submitting this form, you are confirming you are at least 18."

<https://software.seek.intel.com/python-distribution>

Download (2)

You need to
create an
account!

The screenshot shows a web browser window titled "Create an Account - Intel® Products - Mozilla Firefox". The address bar shows the URL "https://registrati...". The page header includes the Intel logo and navigation links for "Products", "Solutions", and "Support". The main content area is titled "Create an Account" and includes a sub-header "Please fill in the form below and click the Submit button to sign up for an Intel account."

The form is titled "Account Details" and contains the following fields:

- Business Email Address * (filled with "frapete@waikato.ac.nz")
- Login ID * (empty)
- Password * (empty)
- Confirm Password * (empty)
- First Name * (filled with "peter")
- Last Name * (filled with "reutemann")
- Country / Region * (dropdown menu showing "New Zealand")
- Full Company Name * (filled with "university of waikato")
- Address Line 1 (empty)
- Address Line 2 (empty)
- City (empty)
- State (empty)
- Zip (empty)
- Phone (empty)
- Fax (empty)
- Intel Contact Email (empty)

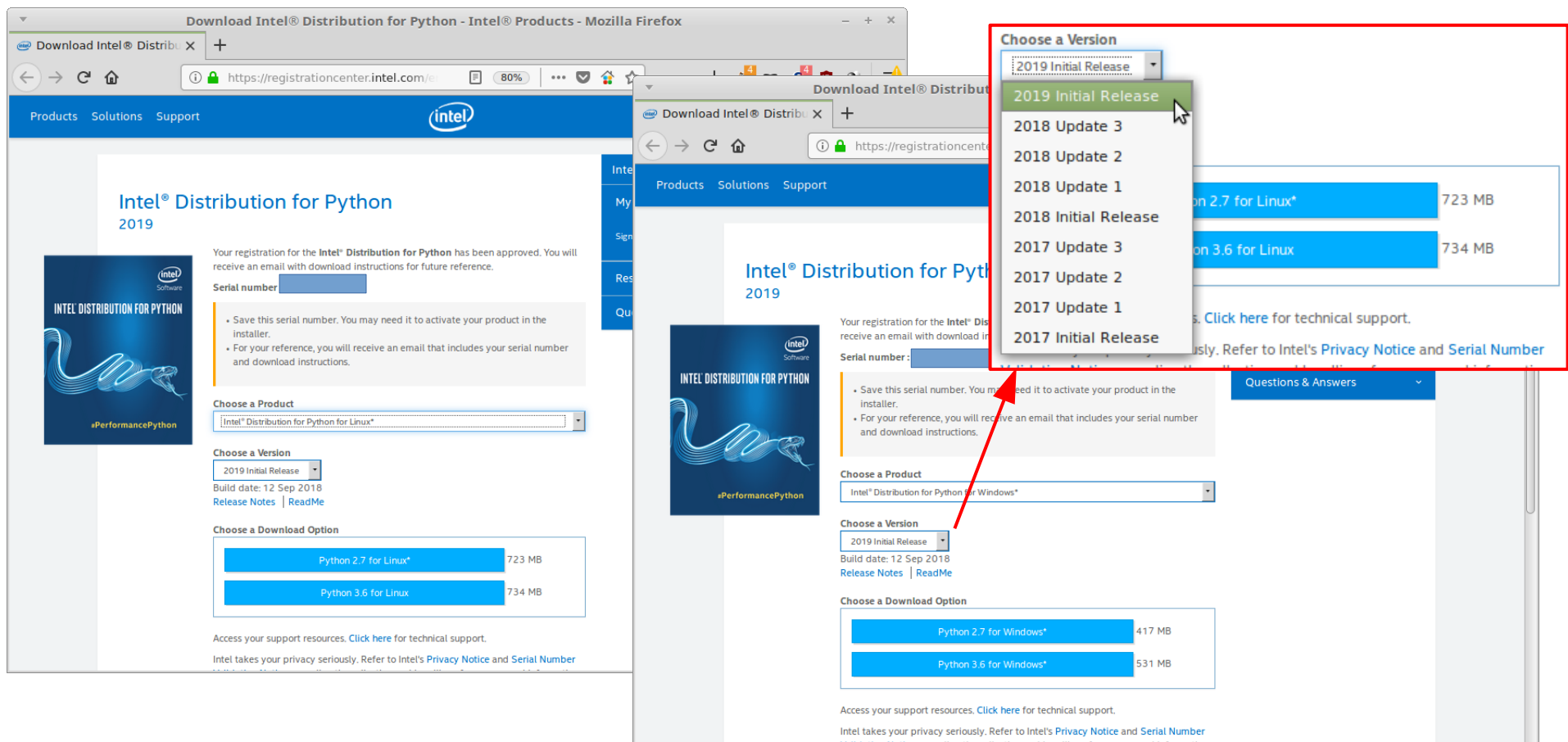
Below the form, there are three checkboxes for marketing preferences:

- ☐ Yes, I would like to be contacted to learn about additional Intel® software products and training.
- ☐ Yes, I would like to receive Intel® Software Product update notifications.
- ☐ Yes, I would like to be contacted to learn about Intel software trainings.

At the bottom, a privacy notice states: "Intel values your privacy. By submitting this form, you are confirming that you are an adult 18 years of age or older and that you consent to Intel collecting and using your registration data ("information") as..."

Download (3)

- Available for Linux, OSX, Windows



Size: 420 - 730 MB

Testing

- Linux Mint 18.2, Python 3.5
- Intel Python 3, Python 3.6
- using timeit module
 - runs 1,000,000 times
- tests
 - list generation
 - numpy matrix operations
 - scipy linear algebra
- inspired by Intel benchmarks

<https://software.intel.com/en-us/distribution-for-python/benchmarks>

Results

Test	Linux Mint	Intel Python
list with 1,000 elements	24.335	29.399
list of 100 random numbers	8.018	9.842
exp of 100 random numbers	18.944	22.446
log10 of 100 random numbers	20.692	23.854
sqrt of 100 random numbers	15.866	20.772
random 100x100 matrix	76.9	93.980
dot prod of two rand matrices (20x20)	11.167	12.688
1000 normal dist random numbers	40.841	43.698
1000 gamma dist random numbers	68.015	69.726
array + scalar	1.492	2.251
array - scalar	1.584	2.049
array * scalar	1.552	2.182
inverse of matrix	49.827	58.822
fft and ifft	35.680	48.088
LU decomposition	8.488	10.358

Tested on: [Intel\(R\) Core\(TM\) i7-7600U CPU @ 2.80GHz](#)

Oh well...