Intel Python vs Linux Mint Python

who is the fastest of them all?

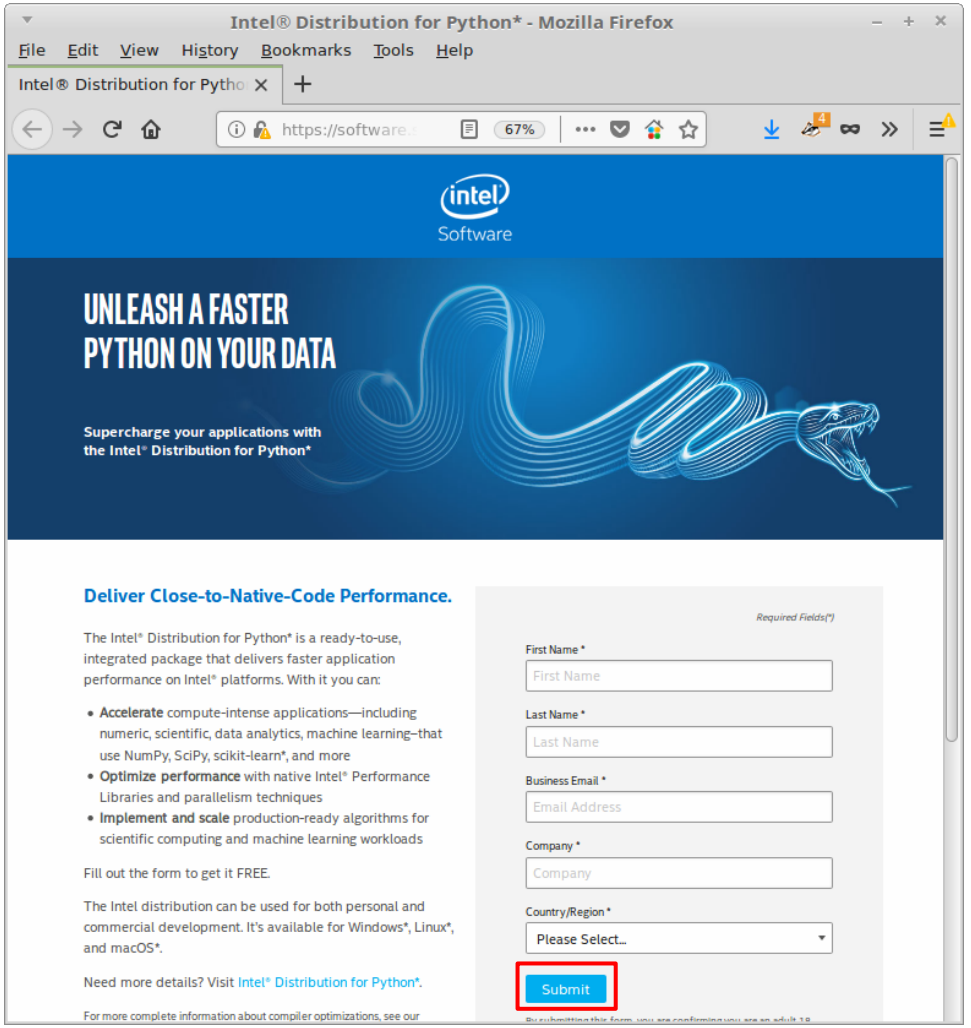
Peter Reutemann

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

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

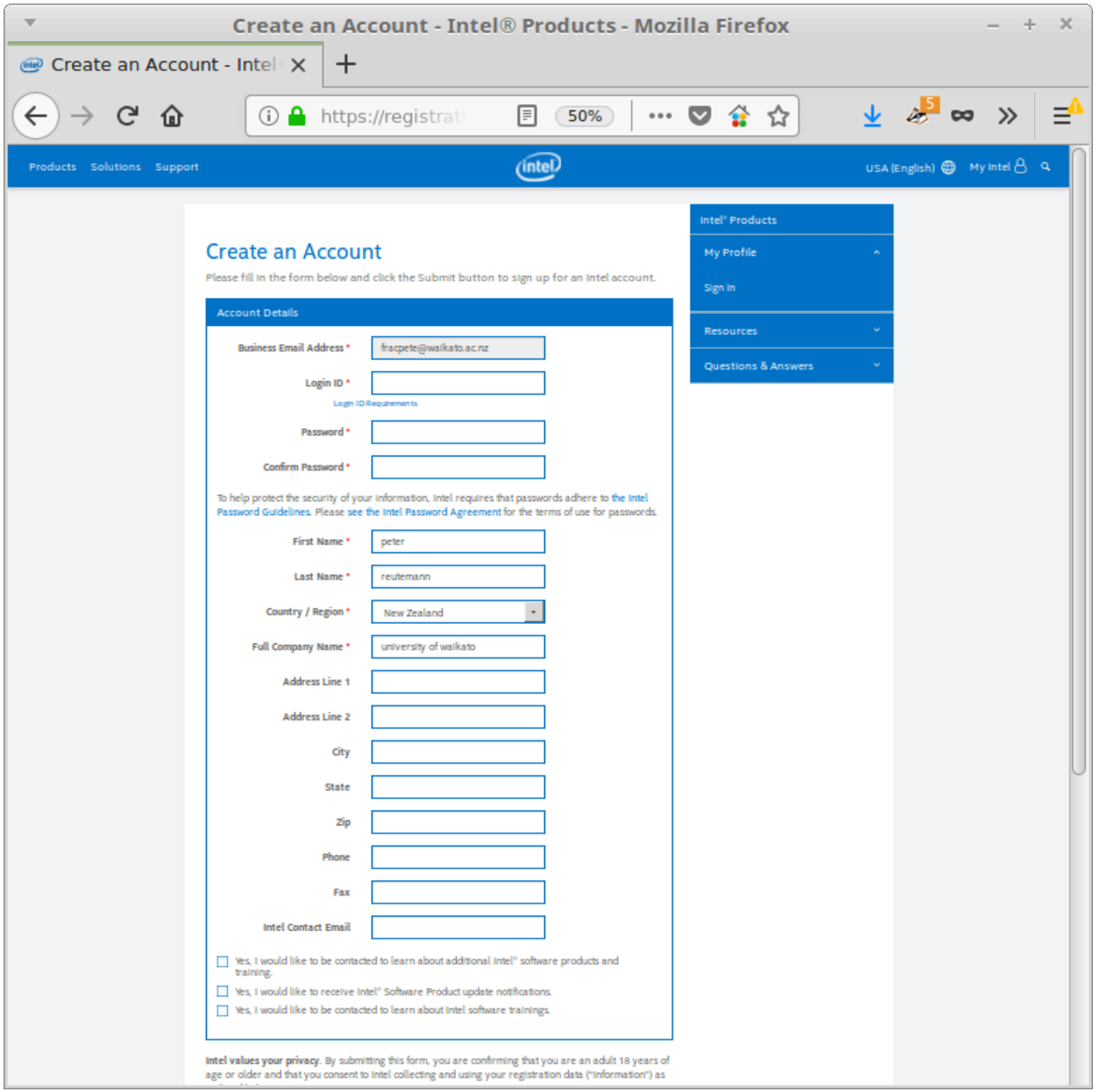
Download



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

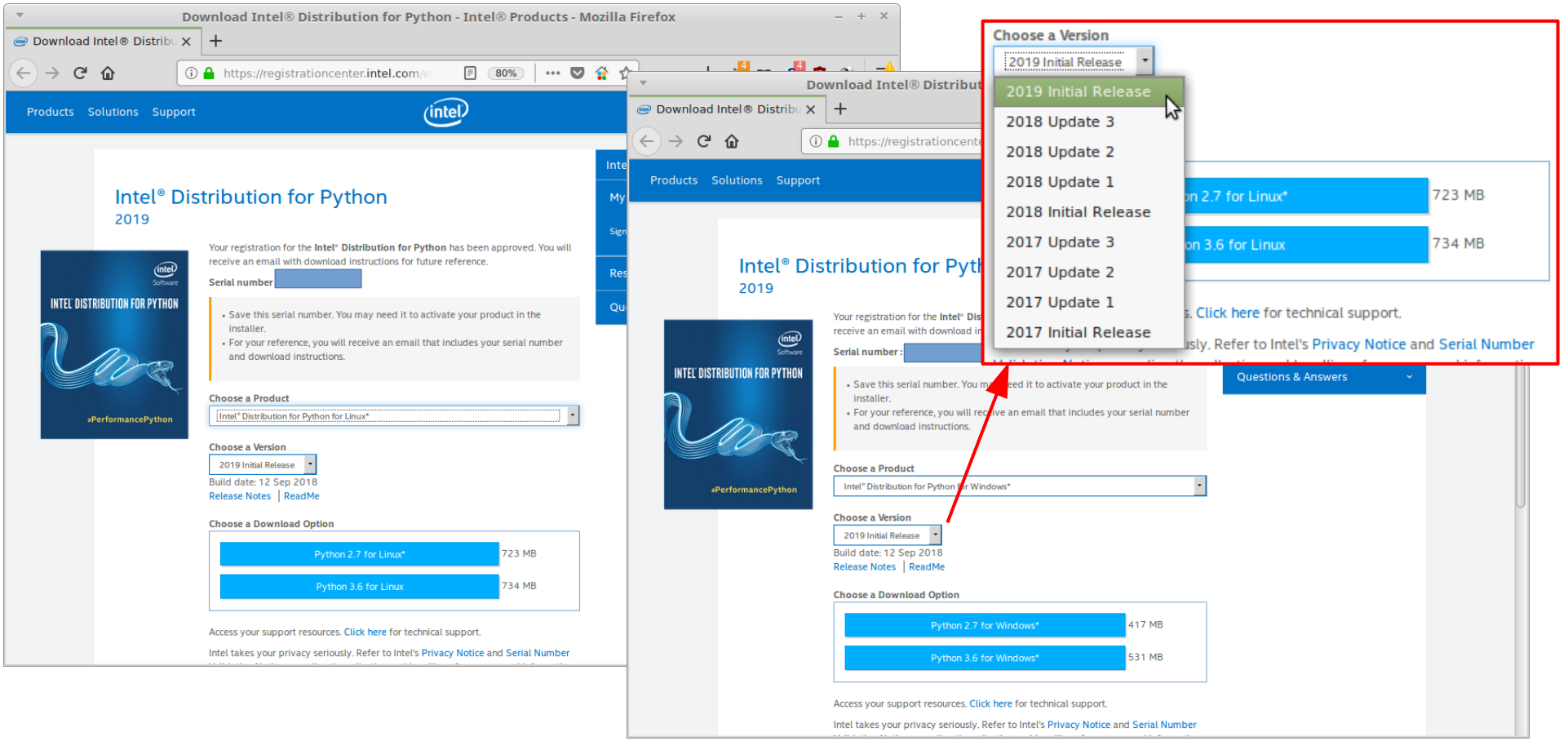
Download (2)

You need to create an account!



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...