```
#!/usr/bin/env python

from numpy import *

def lla2ecef(lat,lon,alt):
#+============================================================================+
# lla2ecef :     Convert from latitude, longitude, and altitude (geodetic with
#                 respect to the WGS-84 ellipsoid) to a position vector in the
#                 Earth-centered, Earth-fixed (ECEF) reference frame.
#
#
# INPUTS
#
# lat ----- latitude in radians
#
# lon ----- longitude in radians
#
# alt ----- altitude (height) in meters above the ellipsoid
#
#
# OUTPUTS
#
# pVec ---- 3-by-1 position coordinate vector in the ECEF reference frame,
# in meters.
#
#+----------------------------------------------------------------------------+
# References:
#    1:  Fundamentals of inertial Navigation, Satellite-based Positioning and their Integration
#        Noureldin, A; Karamat, T.B.; Gregory, J.
#        2013, XVIII, 314p. Hardcover
#        ISBN: 978-3-642-30465-1
#        Site: http://www.springer.com/978-3-642-30465-1 ### Needs clarification ##
#
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#+============================================================================+

    # WGS84 Values #
    a = 6378137.0            ## Semimajor axis (equatorial radius)
    f = 1/298.257223563        ## Flattening
    b = a*(1-f)                ## Semiminor axis
    e = sqrt(f*(2-f))        ## Eccentricity
    E = sqrt(a**2/b**2 -1)    ##

    N = a/sqrt(1 - e**2*sin(lat)**2)        ## Normal radius

    pVec = array([
        [(N+alt)*cos(lat)*cos(lon)],
        [(N+alt)*cos(lat)*sin(lon)],
        [(N - N*e**2 + alt)*sin(lat)]
        ])


    return (pVec)
```